

SONIC AWARENESS, ALIENATION, AND LIBERATION THROUGH  
SOUNDSCAPE RHYTHMANALYSIS

by

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## Abstract

In the following thesis I investigate aspects of soundscape research and study practices through the gaze of certain methodologies presented in Henri Lefebvre's *Rhythmanalysis*. I argue that elements of the practice Lefebvre has coined "rhythmanalysis" may function as useful tools in the study of sound environments. My research attempts to demonstrate that aspects of rhythmanalysis parallel and complement the important soundscape research that R. Murray Schafer and Hildegard Westerkamp have conducted over the past four decades. The thesis brings Lefebvre's theories of capitalist modes of production into dialogue with Schafer and Westerkamp's soundscape explorations. I consider how the rhythmanalytical method corresponds to and diverges from soundscape analysis. The thesis draws on both Schafer and Lefebvre to analyze a soundscape environment that I have personally experienced and inhabited. Lastly, I demonstrate the value in considering rhythmanalysis and Westerkamp's interpretation of soundwalks as a connected discipline.

## **List of Abbreviations Used**

WSP – World Soundscape Project

DAW – Digital Audio Workstation

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On a typical day, in a typical modern city, one can walk among his or her community and observe an ever-growing portion of the populace moving about with their headphones on. There is a sense of autonomy associated with eliminating the surrounding soundscape. Utilizing noise-canceling headphones attached to a portable media player, individuals create a sacrosanct world of sound with discriminately chosen music gleaned from past experiences. In his *Handbook for Acoustic Ecology*, Barry Truax explains that the nature of soundscape “is that it joins the outer physical reality to the inner mental processes of understanding it.”<sup>1</sup> Contrary to this notion, the practice of personal soundtracking detaches our hearing, leaving us entirely dependent on the four remaining senses for managing the concrete reality of our waking, and often walking, moments.

The ear-bud-driven existence experienced by millions of twenty-first-century commuters results in what Michael Bull calls the private “aestheticization” of place and space.<sup>2</sup> Bull’s elaborations on the subject are reminiscent of Theodor Adorno’s suggestion that when listening to music alone an “accompanied solitude” is achieved.<sup>3</sup> Adorno’s critique could be applied to the “accompanied solitude” attained by listening to portable media players today. The ultimate example of solitary listening, the portable media players, first marketed as “Walkmans” in the 1980s, provide a false feeling of “wellness” in which the consumption of music “permits the subject to transcend the social” in an abstract sense believing they are part of some type of social construct. However, in

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<sup>1</sup> Barry Truax, *Handbook for Acoustic Ecology*, (Vancouver, BC: A.R.C. Publications, 1978): viii.

<sup>2</sup> Michael Bull, “Thinking About Sound, Proximity, and Distance in Western Experience: The Case of the Odysseus’s Walkman,” in *Hearing Cultures: Essays on Sound, Listening and Modernity*, Veir Erlmanned. (Oxford: Berg Publishers, 2004): 174.

<sup>3</sup> Theodor Adorno, *Minima Moralia: Reflections on a Damaged Life*, (London: New Left Books, 1974): 45.

concrete terms, the subject is cut off from his or her immediate surroundings and thereby not socializing at all.<sup>4</sup> 2

Some automobile manufacturers boast of the airtight silence of their car's cabins and the all-engulfing-authority of their built-in stereo systems. Conversely, none of these vehicle models (with the possible exception of the convertible) boast of clairaudience regarding the surrounding soundscape. Currently, exactly one hundred years after Luigi Russolo completed his manifesto *The Art of Noises*, we may be farther away from developing an awareness and an understanding of our soundscape than ever. What if instead of seeing a rise in the use of noise-canceling headphones we instead shed these mechanical ear-lids in favour of soundscape-embracing listening skills? Russolo in 1913:

Let us cross a large modern capital with our ears more sensitive than our eyes. We will delight in distinguishing the eddying of water, of air or gas in metal pipes, the muttering of motors that breathe and pulse with an indisputable animality, the throbbing of valves, the bustle of pistons, the shrieks of mechanical saws, the starting of trams on the tracks, the cracking of whips, the flapping of awnings and flags. We will amuse ourselves by orchestrating together in our imagination the din of rolling shop shutters, the varied hubbub of train stations, iron works, thread mills, printing presses, electrical plants, and subways.<sup>5</sup>

In the summer of 2012, while visiting my family in Winnipeg, I was disappointed to discover that I had forgotten to pack my cherished \$200 ear-buds. Long walks through the lush and meandering hiking trails along the Assiniboine River are part of my routine whenever I visit my hometown. The sublime visual delights, supplied by the pastoral scenery along the riverbank, provide an almost meditative serenity. Still, the most exciting aspect of my strolls, until this particular trip, had always been the opportunity to

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<sup>4</sup> Michael Bull, "Thinking About Sound, Proximity, and Distance in Western Experience: The Case of the Odysseus's Walkman," 176.

<sup>5</sup> Luigi Russolo, *The Art of Noises*, trans. Barclay Brown (New York: Pendragon, 1986): 1.

listen to a new recording of Morton Feldman's work or a classic album by Radiohead via 3  
my iPhone connected to my ever-reliable noise-canceling headphones.

During one of my ventures along the river path, unaccompanied by headphones and a soundtrack, I stopped and listened for a moment. I really *listened*. I gradually became aware that I was surrounded by a three-dimensional symphony. It featured the ostinato of a rotating sprinkler from an adjacent park lawn, an accenting series of squirrel's chirps from the encircling bushes, the consistent and distant drone of an airplane directly above me and the pianissimo resonance of the slow moving river behind me. The ambient texture of the acoustic space was accentuated by the occasional passing of other walkers, who added a much needed percussive friction and created an irregular rhythmic counterpoint that might have had Henry Cowell adding a chapter, or at least a few more sentences, to his seminal book on composition *New Musical Resources*.

While listening for what seemed like an entire orchestral movement, I realized that I was immersed in a unique and inimitable soundscape. I removed my iPhone from my pocket and utilized its surprisingly capable internal microphone. I recorded three minutes of this spontaneous sonic fusion for later analysis. I have been interested in creating electroacoustic composition since the first time I bounced field recorded sound objects between two cassette tape recorders for a presentation on *musique concrète* in my eighth grade music class. However, what I experienced beside the Assiniboine River was new to me—it was the first time that I appreciated the sum of the soundscape as a whole work.

Although the soundscape of Assiniboine Park had been removed from its three-dimensional origins, the foreground, middle ground, background dimensions, timbres and



rhythms remained intact on the recording I made. I began to consider how the field-recordings could be realized as electroacoustic compositions using the tools of my DAW (digital audio workstation) of choice, Apple's Logic. The processing features accessible on recent DAW's, such as Logic, include powerful audio wave analysis and editing capabilities that have only recently become available for home studios. I contemplated creating a fluctuating tempo grid by following the mechanical ostinato created by the sprinkler. I thought about mapping out a groove based on the squirrel chirps. Then I considered adding in a high-hat or synthesizer sound to complement the recordings' organicism. Using common sampling techniques, it would be possible to chop the recording into individual phrases and recompose them into a traditional musical form such as a sonata or a pop song. I wondered what effects—including delays, time-stretching, and filters—I could apply to transform sounds into new sonic objects. I understood that what I had was an electroacoustic chamber ensemble. I wanted to provide that ensemble with a structure within which to flourish. I realized that much more time would be needed to fully realize these new electroacoustic recordings I had begun work on, although for the time being, research for the purposes of this thesis would take precedence.

It was beyond satisfying to discover, during the course of my research for this thesis, that a group of Canadian composers comprise the key pioneers of soundscape research and electroacoustic soundscape composition. The World Soundscape Project was founded by “the father of soundscape” R. Murray Schafer, at Simon Fraser University in Burnaby, British Columbia in the late 1960s, to promote research and awareness in the field of acoustic ecology. Another early member of the WSP, Hildegard

Westerkamp, has been a leading innovator in the practice of soundwalking and the art of 5  
soundscape composition since its inception. When Westerkamp began composing with  
environmental sounds in the mid-1970s, the term soundscape composition did not yet  
exist. She asserts that due to a variety of fortunate circumstances in Vancouver in the  
1970s—an inventive cultural community, public funding, and a progressive artistic,  
social and political milieu—she discovered that “environmental sounds were the perfect  
compositional ‘language.’”<sup>6</sup> Westerkamp applies speed manipulations, delays, and a  
variety of studio processing effects to her raw soundscape recordings. Her CD  
*Transformations* (1996)<sup>7</sup> is a consummate example of applied electroacoustic soundscape  
composition. Westerkamp’s compelling and provocative electroacoustic compositions  
merge soundscape field recordings (ocean environment, trains, spoken word, downtown  
Vancouver streets, etc.) with effective audio processing.

The profound work of Westerkamp, along with other Western Canadian  
“electrosoundscape” composers such as Barry Truax, Howard Broomfield, and Bruce  
Davis, has had a great influence on my own work. Following my tranquil and  
enlightening experiences gathering field recordings in Manitoba, I returned to Halifax to  
continue my graduate studies at Dalhousie University. During the first morning back at  
my apartment, my sleep was interrupted abruptly at 9 AM by what sounded like a  
Godzilla-sized dentist’s drill tuned down about fifteen octaves. The noise (or ‘sound’  
depending on interpretation) was vibrating every inch of my apartment as well as my  
physiology. This sonic ambush, which instigated immediate nausea, was the product of  
an excavation project in the parkade beneath my building. Four jackhammers resonated

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<sup>6</sup> Hildegard Westerkamp, “Linking Soundscape Composition and Acoustic Ecology,” *Organized Sound* 7:1 (April, 2002): 51.

<sup>7</sup> Hildegard Westerkamp, *Transformations*, (Montréal: Empreintes DIGITALes, 1996): CD.

through the rebar that holds my high-rise building together like a giant hellish glockenspiel.

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The contrast between the peaceful soundscape of Manitoba's parkland and the soundscape of my apartment under siege was profound. In a word of sage advice, John Cage has suggested: "If a sound bothers you, listen to it."<sup>8</sup> In this instance where the jackhammer sound adversely affected my physiology, I found Cage's advice difficult to implement.

My own intense listening experiences have allowed me to contemplate what sounds can reveal about environments and the conditions of everyday life. I am certainly not the first person to consider what sounds may divulge about modern society. For the past decade the Vancouver Soundwalk Collective, founded by Westerkamp, has explored acoustic spaces in and around Vancouver. The collective inquires into "what our ears tell us about place and what place tells us about ourselves."<sup>9</sup> Soundwalking performs dual roles as both a form of research and artistic creation. It is a method of studying environments while physically moving through space.<sup>10</sup> Westerkamp defines her practice as an investigation into "our ear/environment relationship, unmediated by microphones, headphones and recording equipment."<sup>11</sup> Although the intention of a soundwalk is to enhance participants' aural perception of a place, Westerkamp points out that the practice

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<sup>8</sup> John Cage, *Silence*, (Middletown, Connecticut: Wesleyan University Press, 1961): 3.

<sup>9</sup> The Vancouver Soundwalk Collective, <http://www.vancouver-soundwalk.com> (accessed March 15, 2013).

<sup>10</sup> Andrea Polli, "Soundscape, Sonification, and Sound Activism," *AI & Society* 27 (2012): 258.

<sup>11</sup> Hildegard Westerkamp, "Soundwalking as Ecological Practice," (Paper presented at West Meets the East in Acoustic Ecology Proceedings for the International Conference on Acoustic Ecology, Hirosaki University, Hirosaki, Japan, November 2-4, 2006).

“also alerts all other senses.”<sup>12</sup> Indeed visual aspects, memories, and the overall aesthetics of a place are surly enhanced by paying attention to its sonic details. 7

Westerkamp’s embodied, phenomenological approach to the study of space, through soundwalking, is evocative of the work of French sociologist Henri Lefebvre (1901-1991). During the second half of the twentieth century, Lefebvre theorized a methodology for assessing what he refers to as “cyclical” human rhythms against the “linear” rhythms of modern life.<sup>13</sup> *Rhythmanalysis* has been described as a true form of “situated knowledge,”<sup>14</sup> which employs experiential and poetic, rather than empirical, means to assess modern social relations. Lefebvre argued that the dominant hegemonic configurations characteristic to modern capitalist systems inhibit real self-awareness and self-expression and continue to diminish the quality of human experience.<sup>15</sup>

Henri Lefebvre attained a degree in philosophy in the 1920s and published his first articles in a journal he founded with other left-wing students called *Philosophies*.<sup>16</sup> Early on, Lefebvre took a strong interest in the work of Nietzsche and Schelling. Eventually he discovered Hegel, which led him to the study of Marx and a lifelong dedication to Marxism. Lefebvre is best known for his three volume *Critique of Everyday Life*. The series of publications spanned from the birth of postwar consumerism into the early 1980s. “Lefebvre suggests that we should undertake a vast survey of ‘how we live’”, explains Lefebvre scholar Stuart Elden. “Analyzing the everyday may bring

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<sup>12</sup> Ibid.

<sup>13</sup> Ben Highmore, *Cityscapes*, (New York: Routledge, 2005): 157.

<sup>14</sup> Ben Highmore draws a connection between *Rhythmanalysis* and Donna Haraway’s “Situated Knowledges” in *Cityscapes* (New York: Routledge, 2005), 155–57; Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, 3 (Autumn, 1988): 575–599.

<sup>15</sup> Ben Highmore, *Cityscapes*, 155–57.

<sup>16</sup> Stuart Elden, *Understanding Henri Lefebvre*, (New York: Continuum, 2004): 2.

out the extraordinary in the ordinary, people do not know well how they live.”<sup>17</sup> Lefebvre 8  
posited a method of analyzing the imbalances of modern society by considering both  
natural circadian cycles and imposed industrialized linear structures. The study of the  
opposing rhythms of everyday life, termed “rhythmanalysis” by Lefebvre, attempts to  
create “a science, a new field of knowledge: the analysis of rhythms; with practical  
consequences.”<sup>18</sup> Elden explains the definition of rhythm as it applies to rhythmanalysis:

Rhythm, for Lefebvre, is something inseparable from understandings of time, in particular repetition. It is found in the workings of our towns and cities, in urban life and movement through space. Equally, in the rhythms of our bodies and society, the analysis of rhythms provides a privileged insight into the question of everyday life. Lefebvre takes a number of themes – the thing, the object, life in the urban or rural environment, the role of media, political discipline and the notion of dressage, and music, among others – and rethinks them through the notion of rhythm.<sup>19</sup>

Here Elden informs us that Lefebvre’s notions of rhythm go far beyond the standard musical definitions of the term. Grove Music Online explains that rhythm “is concerned with the description and understanding of the duration and durational patternings of pitches. These durations may be more or less regular, may or may not give rise to a sense of beat or tempo, and may be more or less continuous, but as all music involves duration(s), all music necessarily has some manner of rhythm.”<sup>20</sup> We must always consider Lefebvre’s amateur status as a musician. He liberally plays with the characterization of rhythm on many occasions approaching the term in a broad and malleable sense. I will further investigate Lefebvre’s notions of rhythm in chapter two.

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<sup>17</sup> Ibid., 111.

<sup>18</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life* (London: Continuum, 2004): 3.

<sup>19</sup> Ibid.,viii.

<sup>20</sup> Justin London, "Rhythm," *Grove Music Online* accessed August 18, 2013, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/45963>.

In his seminal text Lefebvre suggests that the goal of *Rhythmanalysis* is to see the ultimate reintegration of people and their lived experiences. “Today *man*, humanity, the human species is going through a testing time, where everything is thrown into question: including the existence of space, including the *foundations* of knowledge, of practice and of societies.”<sup>21</sup> Lefebvre is indirectly referring to a form of embodied research here, along the lines on soundwalking. This introduction so far has discussed the embodied research approach that Westerkamp practices in soundwalking, and chapter four of this paper will deal specifically with soundwalking and rhythmanalysis. However, the foundations of soundscape study can be attributed to the tireless work of R. Murray Schafer. Schafer’s work in soundscape research has various correlations with rhythmanalysis as I will demonstrate through the course of this thesis. Schafer’s work, for instance, promotes the re-establishment of the ecological connection of sound to its environment. Schafer developed an awareness of a phenomenon that he terms “endangered hi-fi” soundscapes through his rigorous study of the impact of the sounds of industrial modernity on acoustic spaces.<sup>22</sup> Schafer has visited urban and wilderness locales and determined that damaged ecosystems (old growth forest disturbed by logging) were deficient in certain sound frequencies.<sup>23</sup>

I propose that the embodied research method proposed by *Rhythmanalysis* is uncannily similar to existing soundscape research and soundwalk practices, pioneered by Schafer, Westerkamp and the WSO, that merge art and research. The methodology behind *Rhythmanalysis* is closely linked to musical thought, as Lefebvre was an amateur musician himself. Lefebvre suggests that the rhythmanalyst “will come to ‘listen’ to a

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<sup>21</sup> Ibid., 13.

<sup>22</sup> Andrea Polli, “Soundscape, Sonification, and Sound Activism,” *AI & Society* 27 (2012): 257.

<sup>23</sup> Ibid., 257.

house, a street, a town, as an audience listens to a symphony.”<sup>24</sup> As such, *Rhythmanalysis* 10 constitutes a useful theoretical model for composers, and listeners, to gain a better understanding of the environs in which they are situated and the daily lives that drive those environs.

In the following chapters, I investigate aspects of soundscape research and study practices through the gaze of certain methodologies presented in Henri Lefebvre’s *Rhythmanalysis*, which will be defined in chapter two. I argue that elements of Lefebvre’s rhythmanalysis may function as useful tools in the study of sound environments. I suggest that these aspects of rhythmanalysis parallel and complement the important soundscape research that R. Murray Schafer has conducted over the past four decades. To demonstrate the imbrications between Lefebvre’s and Schafer’s work, I will first highlight some of the tenets of rhythmanalysis and consider how the rhythmanalytical method corresponds to and diverges from Schafer’s soundscape analyses. In chapter three, I will draw from both Schafer and Lefebvre to analyze a soundscape environment that I have personally experienced and inhabited. Chapter four will demonstrate the value in considering rhythmanalysis and Westerkamp’s interpretation of soundwalks as a connected discipline.

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<sup>24</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 22.

*Rhythmanalysis: Space, Time, and the Everyday Life* (1992) was the last book that Henri Lefebvre wrote. The text encapsulates the theorist's ideas on utilizing rhythms to analyze everyday life. The theoretical practice that Lefebvre referred to as rhythmanalysis originated in his three-volume *Critique of the Everyday Life* (1947-1980), a monumental work comprised of over three decades worth of writings. In this chapter I will consider the foundations and methods of rhythmanalysis in order to propose that they may offer a theoretical and philosophical framework to think through soundscapes and soundscape composition.

Though prominent in Geography and Cultural Studies, there is limited consideration for Lefebvre's work in the realm of musicology even though his theories are largely analogous, and sometimes directly based on, musical aesthetics.<sup>25</sup> The lack of scholarship that considers music and sound through the gaze of rhythmanalysis is surprising considering Lefebvre's dependence on the aural arts in his work. In the introduction to *Rhythmanalysis* Stuart Elden emphasizes the musical component in Lefebvre's work.

Musical metaphors and discussions are scattered across Lefebvre's extensive writings, and he was a keen amateur musician, playing the piano and numbering Beethoven and Schumann as his favourite composers. He was also interested in the dominant modes of musical theory in the work of Pierre Boulez and his antecedents Webern and Schoenberg. Lefebvre thought it was very important to theorize music as a relation of three terms – melody, harmony, and rhythm. His suggestion is that the last of these is often neglected in discussions of music, though it is of paramount importance. All of these three depend on an understanding of time – melody being a sequence of notes in temporal succession,

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<sup>25</sup> In the introduction to *Rhythmanalysis* Stuart Elden notes that Lefebvre's "work on temporality and more generally on music have had little attention paid to them. This is the case even in books on Lefebvre." Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life* (London: Continuum, 2004): xiv.



harmony relying on notes sounding at the same time, and rhythm being the placement of notes and their relative lengths.<sup>26</sup>

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Elden's quote illuminates some ambiguities, and some might say contradictions, within Lefebvre's oeuvre. As a self-proclaimed Marxist, Lefebvre might provoke some raised eyebrows with his choice of Beethoven and Schumann as his "favourite composers" being that both come from an apex of Western bourgeois culture. Although Lefebvre often espouses on the importance of the rhythmanalyst being acutely aware of his or her own self in his methodology, he usually means it in a corporeal sense. Much like other Western philosophers who enjoy the luxuries afforded by capitalist societies, Lefebvre's critiques of those same societies could be called hypocritical due to the fact that he lives within them. However, no society should be beyond the guise of constructive criticism, and I suspect Lefebvre would classify his position in society, allegorically, to a philosophical "watchdog". Furthermore, Lefebvre's uses musical metaphors and analogs as a philosopher, not a composer or professional musician. Gathering a sense of Lefebvre's argument when he imposes musical imagery often requires some imagination.

### **Dialectics and The Body**

Lefebvre's examination of the relationship between the triad of melody, harmony, and rhythm, stems from his interest in Hegelian dialectics. In simple terms, Hegelian dialectics relies on a triadic model where a thesis is opposed with an antithesis, eventually resulting in a synthesis of both ideas. Lefebvre considers the triadic dialectic an important structure for applied analysis. He claims that while dual analysis has its place, dialectic thought has lifted analysis to advanced levels. Lefebvre:

For a long time analysis remained at an inferior level: unilateral, attributing, unlimited (philosophical) value to one opposition (subject-object). Similarly, *rise*

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<sup>26</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, xi.

*and fall, life and death, knowledge and play, before and after...* It is only recently, with Hegel and Marx, that analysis has understood the **triadic** character of the approach, by becoming dialectical in accordance with the scheme: *thesis-antithesis-synthesis*.<sup>27</sup> 13

This dialectic scheme is integral to rhythmanalysis with the triad becoming *space-time-body* where body refers to that of the observer, the rhythmanalyst. “Relations between rhythms need to be physically grasped”, explains Claire Revol in her article “Rue Rambuteau Today: Rhythmanalysis in Practice.” Revol elaborates:

This requires a point of departure, and Lefebvre chooses the body, with its particular rhythms and dimensions. Thus the analysis integrates the body, and enables a transition to the concrete. But rhythms are perceived in the world or the environment. This means that observation or experience must be understood as a part of the dialectic analysis of rhythms.<sup>28</sup>

However, Lefebvre has explicit criteria regarding how the observer must rhythmanalyse in relation to his or her own body.

Lefebvre suggests that the aspiring rhythmanalyst must listen “first to his body; he learns rhythm from it, in order consequently to appreciate external rhythms.”<sup>29</sup> In what appears to be a contradiction Lefebvre also proposes that “in order to analyze a rhythm one must get outside of it.”<sup>30</sup> Lefebvre highlights the rhythmanalyst’s complex task of considering his or her own individual bodily function in relation to the rhythms of larger social structures. “When rhythms are lived, they cannot be analyzed...we only hear the sounds and frequencies that we produce in speaking - and vice versa, we can only

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<sup>27</sup> Ibid., 37.

<sup>28</sup> Claire Revol, “Rue Rambuteau Today: Rhythmanalysis in Practice,” *Rhuthmos* (April 2012) <http://rhuthmos.eu/spip.php?article5494> (accessed March 2013): 4.

<sup>29</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 19.

<sup>30</sup> Ibid., 88.

produce those that we hear. This is called the circle...”<sup>31</sup> This complexity accounts for 14

Lefebvre’s insistence that the rhythm analyst be as much poet as he is scientist:

On some occasions he (the rhythm analyst) rather resembles the physician who examines functional disruptions in terms of malfunctions of rhythm, or of arrhythmia – on others, rather the poet who is able to say:

O people that I know  
It is enough for me to hear the noise of their footsteps  
To be forever able to indicate the direction they have taken<sup>32</sup>

As cultural sociology researcher from Lancaster University Dave Horton concurs,

Lefebvre’s texts often present a substantial undertaking for full comprehension:

Yes, Lefebvre’s writing can be infuriatingly hard to follow, and repays substantial effort, concentration and revisiting. But this work on time is remarkably transdisciplinary and, correspondingly, there is something here for anyone interested in time, irrespective of disciplinary perspective. Whoever we are, Rhythm analysis will enrich our theoretical and empirical investigations of time.<sup>33</sup>

Although Horton focuses on the theoretical and empirical value here, I believe Lefebvre’s texts often offer an aesthetic value that uniquely amalgamates scientific research and artistic, visionary prose. Schafer and Westerkamp, being chiefly concerned with sound, are more direct in their texts, although this could also be due to the fact they are writing in English where some of Lefebvre’s meanings might be lost in translation.

*Rhythm analysis* was only translated to English in 2004 and it is entirely possible that some of his passages may have lost some of their connotation in the English interpretation.

Rhythm analysts do not simply analyze the body as a subject. In his description of the role of the body in the practice of rhythm analysis, Elden proposes that rhythm analysts use their own bodies as the first point of analysis and the tool for subsequent

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<sup>31</sup> Ibid., 88.

<sup>32</sup> Ibid. Poem by Guillaume Apollinaire

<sup>33</sup> Dave Horton, “Book Reviews,” Henri Lefebvre, *Rhythm analysis: Space, Time and Everyday Life* in “Time & Society” 14:1 (2005): 157-159.

investigations. “The body serves us as a metronome.”<sup>34</sup> Lefebvre urges the rhythm analyst 15 to listen to all rhythms as a unified whole while “integrating the outside with the inside and vice versa.”<sup>35</sup> In other words, the rhythm analyst must be aware of his or her role as both subject and object in the equation of the body-space-time dialectic in the practice of analyzing rhythms.

### **What is Rhythm?**

Lefebvre has a very distinct and nuanced definition of rhythm, yet possibly slightly whimsical. We must take into account that Lefebvre is considering rhythms as an amateur musician, and his theories behind rhythms are not based entirely on sound, although sound plays a vital role. That being understood, he still offers valuable perspectives on rhythm that can help to form worthwhile insights into soundscape. He declares that, “every-where where there is interaction between a place, a time and an expenditure of energy, there is rhythm.”<sup>36</sup> This expenditure of energy could also be classified as movement of some kind. Along with this movement there must be repetition, which must involve distinctions that create an identifiable series of stronger and weaker moments. Lefebvre elaborates on his definition of rhythm:

For there to be rhythm, strong times and weak times, which return in accordance with a rule or law – long and short times, recurring in a recognizable way, stops, silences, blanks, resumptions and intervals in accordance with regularity, must appear in a movement. Rhythm therefore brings with it a differentiated time, a qualified duration.<sup>37</sup>

In accordance with this definition, Lefebvre asserts that rhythm must also contain a specifically unique and definable difference within the repetition:

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<sup>34</sup> Ibid., xii.

<sup>35</sup> Ibid., 20.

<sup>36</sup> Ibid., 15.

<sup>37</sup> Ibid., 78. Bold in original.

No rhythm is without repetition in time and in space, in short without **measure**. 16  
Whence the relation between repetition and difference. When it concerns the  
everyday, rites, ceremonies, fetes, rules and laws, there is always something new  
and unforeseen that introduces itself into the repetitive: difference.<sup>38</sup>

Lefebvre is feasibly too liberal, and slightly confused, with his use of the words rhythm  
and measure here. Nevertheless, this presumption points to two key factors about  
rhythm. Rhythm must include; firstly, “temporal elements that are thoroughly marked,  
accentuated, hence contrasting, even opposed like strong and weak times.”<sup>39</sup> Secondly,  
“an overall movement that takes with it all these elements (for example, the movement of  
a waltz, be it fast or slow).”<sup>40</sup> This qualification includes an “*internal measure*”<sup>41</sup> that  
distinguishes itself markedly from an “*external measure*,”<sup>42</sup> which the internal measure  
exists within, though the two cannot be mixed. Lefebvre best explains this relationship of  
polyrhythmia with the analogy of ocean waves:

Waves come in succession: they take shape in the vicinity of the beach, the cliff,  
the banks. These waves have a rhythm, which depends on the season, the water  
and the winds, but also on the sea that carries them, that brings them. Each sea  
has its rhythm: that of the Mediterranean is not that of the oceans. But look  
closely at each wave. It changes ceaselessly. As it approaches the shore, it takes  
the shock of the backwash: it carries numerous wavelets, right down to the tiny  
quivers that it orientates, but which do not always go in its direction. Waves and  
waveforms are characterized by frequency, amplitude and displaced energy.  
Watching waves, you can easily observe what physicists call the superposition of  
small movements. Powerful waves crash upon one another, creating jets of spray;  
they disrupt one another noisily. Small undulations traverse each other,  
absorbing, fading, rather than crashing, into one another. Were there a current or  
a few solid objects animated by a movement of their own, you could have the  
intuition of what is a polyrhythmic field and even glimpse the relations between  
complex processes and trajectories between bodies and waveforms, etc.<sup>43</sup>

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<sup>38</sup> Ibid., 78.

<sup>39</sup> Ibid., 78.

<sup>40</sup> Ibid., 78,79.

<sup>41</sup> Ibid., 78, 79.

<sup>42</sup> Ibid., 78, 79.

<sup>43</sup> Ibid.,79.

In this ocean wave example, the “frequency, amplitude and displaced energy” provide a system of measure that acts in congruence with the internal rhythm of the waveforms, which consists of the superposition of small movements. Lefebvre emphasizes that “the external measure can and must superimpose itself on the internal measure, but they cannot be conflated.”<sup>44</sup> Analogous to the ocean wave example, for the rhythm analyst to analyze the rhythms of the everyday he or she must consider the internal rhythms of the body—breathing, blood flow, nervous system, movement, etc—as the internal measure, or internal “metronome,” which exists in an external measure, time and space.

### **The Rhythmanalytical Tools**

As the aim of this thesis is to integrate rhythm analysis as a working tool for acoustic design and soundscape research, I will now outline some foundations of rhythm analysis that may be empirically applied to the understanding of rhythms in a soundscape environment. As a starting point for the rhythm analyst, Lefebvre offers what he calls “a panoply (magnificent array) of methodological utilized categories (concepts) and oppositions would appear indispensable: repetition and difference; mechanical and organic; discovery and creation; cyclical and linear; continuous and discontinuous; quantitative and qualitative...”<sup>45</sup> Lefebvre claims that “the monotonous return of the same, self-identical noise no more forms a rhythm than does some moving object on its trajectory,”<sup>46</sup> although of course he admits in our ears and brains it does form a rhythm. Lefebvre here starts to show his distaste for static, what he calls linear rhythms. He insinuates that a return of the exact noise in an exact repetition does not

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<sup>44</sup> Ibid., 78.

<sup>45</sup> Ibid., 9.

<sup>46</sup> Ibid., 78.

form a rhythm because it basically flatlines through existence with no beginning and end, 18  
it never dies.

According to Lefebvre all rhythms are either organic or discontinuous - therefore being cyclical - or mechanical and continuous - therefore being linear. Although this approach is effective in analyzing the political and social origins of rhythms on a surface level, it requires a deeper examination by the rhythm analyst.

For Lefebvre, the rhythm analyst must be intensely conscious of the two contrasting modalities that he labels cyclical rhythms and linear rhythms.<sup>47</sup> Cyclical rhythms encompass all that is natural, that which “originates in the cosmic, in nature: days, nights, seasons, the waves and tides of the sea, monthly cycles etc.”<sup>48</sup> Linear rhythms, or “time of watches and clocks,” are associated with the mechanisms, structures, schedules and systems imposed by the economic, social, political and cultural framework of modern Western society.<sup>49</sup> Lefebvre’s Marxist roots are apparent in his disdain for the imposition of rationalized linear systems on organic lived experience. He proposes that natural, circadian human rhythms are incongruous with “exhausting and tedious” linear rhythms and advocates “the return of a cycle.”<sup>50</sup> Lefebvre is insistent that linear rhythms have encroached too far into the cyclical patterns that human life thrives within, although the linear could never entirely overshadow the cyclical, which is irrepressible. He argues that both cyclical and linear rhythms have a relationship in which one is measured against

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<sup>47</sup> Ibid., 8.

<sup>48</sup> Ibid., 8.

<sup>49</sup> Ibid., 73.

<sup>50</sup> Ibid., 73.

the other, “cyclical repetition and linear repetition separate out under analysis, but in *reality* interfere with one another constantly.”<sup>51</sup> 19

Some scholars such as Paul Simpson have taken umbrage with Lefebvre’s level of partiality towards the cyclical in his deliberations about the different characteristics of linear and cyclical rhythms:

Is Lefebvre “idyllic” in his conception of the linear and cyclical? Is there an underlying nostalgia in his distinction between favourable natural rhythms and the mechanistic linear? Is Lefebvre yearning for a return to “nature”?<sup>52</sup>

While there are definite “idyllic” overtones in Lefebvre’s notions of the cyclical, he offers solid evidence that his partialities for a return to the “natural” are warranted. According to Lefebvre, linear rhythms have grown out of capitalism and the socio-economic models for society that developed as a result of the industrial revolution. In the modern era new rhythms were imposed based on the premise that “the commodity prevails over everything”.<sup>53</sup> The intentions behind production permeated and affected the structure and phenomenology of everyday life. However, Lefebvre acknowledges that under systems of capitalist production there will be inevitable change within the processes attributed to everyday life while noting that certain philosophers have perhaps distorted the relationship between the cyclical and the linear to serve their own idealism:

With the reign of the commodity, philosophy changes. In order to expose the social process, we call out to the sum total of activities and products: nature – labour. A double philosophy results from this, the one *reactionary*, the other *revolutionary*. More or less simultaneously: Schopenhauer and Marx. The former fetishes nature, *life*, though not without seeing in it an abyss, a pit from which the ephemeral surges forth. Music evokes the chasm; however this philosophy speaks little of rhythms. By its side, Marx insists on the transformation of brute nature through human work, through technology and

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<sup>51</sup> Ibid., 73.

<sup>52</sup> Paul Simpson, “Chronic Everyday Life: Rhythmanalysing Street Performance,” *Social & Cultural Geography* 9:7 (November 2008): 820.

<sup>53</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 6.



inventions, through labour and consciousness. Yet he doesn't discover rhythms...<sup>54</sup>

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Here Lefebvre displays a thoughtful awareness of the generalizations sometimes attached to discussions surrounding the divisions between naturalism and production. This awareness enhances the integrity of Lefebvre's observations regarding the cyclical and linear and provides evidence that he is open to a certain degree of subjectivity and ambiguity concerning the polyrhythmic integration of both rhythms in everyday life.

Rhythmanalysis always retains a philosophical undercurrent featuring a critique of everyday life. Lefebvre argues that in contemporary culture, humans are shaped both by 'natural' rhythms including breathing, eating, sleeping, and the 'social' rhythms that embody society. A fusion of these rhythms comprises 'the everyday'. The everyday becomes the setting for the convergence of these two rhythms and thereby creates a conflict between nature and production.

It may be pointed out right away that, whereas a *work* has something irreplaceable and unique about it, a *product* can be reproduced exactly, and is in fact the result of repetitive acts and gestures. Nature creates and does not produce; it provides resources for a creative and productive activity on the part of social humanity; but it supplies only *use value*, and every use value – that is to say, any product inasmuch as it is not exchangeable – either returns to nature or serves as a natural good. The earth and nature cannot, of course, be divorced from each other.<sup>55</sup>

Lefebvre infers that everyday life is not only controlled by economic interest, but is also a mechanism in the increasing expansion of capitalism. "In today's society, people are subjected to a programmed self-regulation; they are instructed in great detail how to live better, how to eat a healthier diet, how to dress fashionably, how to decorate their houses – in short, how to exist. What this means, in part, is that everyday life has become completely manipulated", explains Mohamed Zayani. "Alienation is no longer limited to

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<sup>54</sup> Ibid., 7.

<sup>55</sup> Henri Lefebvre, *The Production of Space* (London: Blackwell, 1991): 70.

the economic principle of production for the sake of production. It is ensconced in all the 21  
spheres of vital activities; it is associated with the repetitive, the recurrent, the  
tautological, and pleonastic.”<sup>56</sup> Here Zayani suggests that the everyday life outside of  
work has adopted many of the linear rhythms of capitalist production model. There is no  
cyclical nature to living better, dressing better, decorating your house better. A better  
always exists. Cyclical rhythms call for a birth, a becoming, life and death. Claire Revol  
elaborates on the aesthetic of the linear in everyday life:

Time becomes reversible because everyday life introduces continuity and a  
feeling that time will always repeat, without beginning and, above all, without  
end. The consequence is that the tragic inherent to life and history is abolished.  
Death is eliminated from everyday life. Cyclic rhythms (life and death, day and  
night, seasons...) are crushed by linear rhythms introduced by the production  
process. The future is seen as a continuation of the present via self-fulfilling  
projections.<sup>57</sup>

Categorizing a rhythm as linear or cyclical is a good point of departure for applied  
rhythmanalysis in which the rhythmanalyst must at once become aware of a rhythm’s  
origin as well its cause. In chapter three, my further investigations will illuminate some  
approaches to utilizing the two modalities of cyclical and linear as an effective tool in  
analyzing soundscapes.

### **Polyrhythmia**

Whereas the cyclical and linear modes provide a good juncture to begin an  
analysis of individual rhythms, rhythmanalysis also requires exploration of how rhythms  
work in concert with one another. For this purpose Lefebvre highlights three categories  
he designates as eurhythmia, isorhythmia, and arrhythmia.”<sup>58</sup> Eurhythmia is a state in  
which two rhythms are harmonious with each other—such as the case with a healthy

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<sup>56</sup> Zayani, Mohamed, “Introduction to Rhythmanalysis,” *Rethinking Marxism* (Spring 1999): 3.

<sup>57</sup> Claire Revol, “Rue Rambuteau Today: Rhythmanalysis in Practice,” 9.

<sup>58</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 68.

body where breathing, heartbeat and other bodily functions are all working together well. 22

Isorhythmia exists when all rhythms are equal, for example when a conductor extends a rhythm over an entire orchestra with his baton.<sup>59</sup> Finally, arrhythmia represents a fatal disruption of rhythms when they do not function together. In many instances the combination of linear and cyclical rhythms have an arrhythmic relationship. This dissonant relationship becomes apparent to the rhythm analyst who is paying particular attention to soundscape. For example, the natural circadian sleep patterns of a person living in a downtown city will be interrupted by the busy soundscape of buses, bells, cars and commuters early in the morning. These sounds originate in the linear mechanism, which drives the nine-to-five existence. If a person is awoken at 6AM by these sounds when more sleep is required, an arrhythmia becomes evident creating what Lefebvre calls a “dispossession of the body.”<sup>60</sup>

In his 2008 paper “Chronic Everyday Life: Rhythm Analysing Street Performance”, Paul Simpson applied rhythm analysis to gain a better understanding of the ebb and flow of buskers and audiences at a specific location in London. Simpson concludes that while Lefebvre’s rhythm analysis scheme provides a decent system of classification for the temporalistic realities of modern society, he feels that “there is a need to move towards doing a rhythm analysis that is not so necessarily biased towards looking for the disquieting and defective arrhythmic polyrhythmia in the everyday and the resultant revolutionary potential within.”<sup>61</sup> As is the case with my aforementioned 6AM morning soundscape example, arrhythmias are probably more distinct and easier to

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<sup>59</sup> Ibid., 68.

<sup>60</sup> Ibid., 75.

<sup>61</sup> Paul Simpson, “Chronic Everyday Life: Rhythm Analysing Street Performance,” 823.

extrapolate. In chapter three I will further investigate the polyrhythmic nature of a soundscape with additional examples.

Lefebvre often notes the comparative nature of rhythmanalysis and while his theory offers valuable groups of contrasting tables such as slow or fast, syncopated or continuous, interfering or distinct, he never lets us forget that rhythmanalysis is as much an art as a science. The goals of rhythmanalysis are to give the analyst a collection of ideas to consider when studying the rhythms of society in order to add conceptual and philosophical magnitude to the practice. A definite empirical system was never

Lefebvre's goal:

We wanted to introduce concepts and a general idea – rhythmanalysis – into the debate. This concept has very diverse origins: the theory of measurement, the history of music, chronobiology and even cosmological theories. In proposing here several hypotheses in the hope that they would be taken up and carried further than before by others.<sup>62</sup>

Lefebvre injects intentional vagueness into rhythmanalysis through his promotion of phenomenological research that “mixes the felt with the conceived.”<sup>63</sup> Ben Highmore elaborates on the ambiguity of Lefebvre's concepts of rhythmanalysis:

The dialectic between the practical and the theoretical, between the concrete and the abstract, requires a mutual and continual testing. There is no empirical reality that can simply be encountered so that it will reveal the forces that produced it. Nor is there a world of thought that can tell us essential truths.<sup>64</sup>

Because of its transdisciplinary nature, rhythmanalysis could easily be relegated to study in only social sciences or phenomenology. I argue that rhythmanalysis is as much in alignment with soundscape study as both of these disciplines.

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<sup>62</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 100.

<sup>63</sup> Ben Highmore, *Everyday Life and Cultural Theory* (New York: Routledge, 2001): 116

<sup>64</sup> Claire Revol, “Rue Rambuteau Today: Rhythmanalysis in Practice,” 4.

philosophical canon:

What is the difference between observation in rhythmanalysis and other forms of observation as they are practiced in phenomenology or social sciences? To understand these questions, we need to remember that what is felt and what is experienced is not only due to a stimulus of the senses, but that perception itself is a mental process which involves some kind of epistemology. We can train ourselves to perceive in a certain way. This is the metamorphosis that the rhythmanalyst should accomplish. It is similar to the one that artists often describe.<sup>65</sup>

Here Revol links the empirical forms of observation called for in phenomenology or social sciences with the nuances and subtleties artists generally need to perceive when creating. Both of these qualities are essential tools for the rhythmanalyst.

### **Rhythmanalysis for Listening**

Employing Lefebvre's theories in an attempt to rhythmanalyze a soundscape or soundscape composition requires a certain degree of flexibility. There are some specific tools that can be utilized by the rhythmanalyst, contrasts and comparisons that lend particular focus to the structural origins of a sound or rhythm. These tools, which will be reviewed thoroughly in chapter three, can be employed while the rhythmanalyst never loses sight of the phenomenological and dialectical quotient of rhythmanalysis.

Lefebvre elaborates:

Our sensations and perceptions, in full and continuous appearances, contain repetitive figures, concealing them. Thus, sounds, lights, colours and objects. We contain ourselves, body and flesh, we are almost objects. Not completely, however. But what does a midge perceive, whose body has almost nothing in common with ours, and whose wings beat to the rhythm of a thousand times per second? This insect makes us hear a high-pitched sound, we perceive a threatening, little winged cloud that seeks our blood. In short, rhythms escape

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<sup>65</sup> Ibid., 4.

logic, and nevertheless contain logic, a possible calculus of numbers and numerical relations.”<sup>66</sup>

Lefebvre considers many senses in this example; “sounds” – hearing, “lights” – sight, “flesh” – touch, however hearing seems to take a primary role in rhythmanalytical perception as according to Lefebvre it is the “high-pitched sound” we perceive as threatening. Lefebvre claims that when grasping rhythms, the “discriminatory capacity of the auditory and cerebral apparatuses plays the primary role”,<sup>67</sup> and the rhythmanalyst is always “listening out.”<sup>68</sup> He consistently refers to hearing as the rhythmanalyst’s principal gateway to perception:

He hears the wind, the rain, storms; but if he considers a stone, a wall, a trunk, he understands their slowness, their interminable rhythm...or the movements of the molecules and atoms that compose it (the object, the forest). The object resists a thousand aggressions but breaks up in humidity or conditions of vitality, the profusion of miniscule life. To the attentive ear, it makes a noise like a seashell.<sup>69</sup>

According to Lefebvre, the rhythmanalyst “hears the temporalities” unfold and he knows how to “listen to a square, a market, an avenue.”<sup>70</sup> According to R.Murray Schafer, the acoustic designer should follow a similar method in analysis, although followed up with invention. “The acoustic designer may incline society to listen again to models of beautifully modulated balanced soundscapes such as we have in great musical compositions. From these, clues may be obtained as to how the soundscape may be altered, sped up, slowed down, thinned or thickened, weighted in favor or against specific effects.”<sup>71</sup> Lefebvre enthuses that the rhythmanalyst listen to a house, a street, a town as one listens to a symphony while “he seeks to know how this music is composed, who

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<sup>66</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 11.

<sup>67</sup> Ibid., 69.

<sup>68</sup> Ibid., 69.

<sup>69</sup> Ibid., 20.

<sup>70</sup> Ibid., 89.

<sup>71</sup> Schafer, R. Murray, *Tuning of the World* (Rochester, Vt.: Destiny Books, 1977): 237-238.

plays it and for whom.”<sup>72</sup> While Lefebvre’s use of the music composition analogy is more focused on rhythms than merely sound, Schafer’s arguments for acoustic design, although attentive to the innovation stage rather than the analytical, seem to address Lefebvre’s aspirations for rhythmanalysis: “The best way to comprehend what I mean by acoustic design is to regard the soundscape of the world as a huge musical composition, unfolding around us ceaselessly. We are simultaneously its audience, its performers, and its composers. Which sounds do we want to preserve, encourage, multiply?”<sup>73</sup>

In addition to Lefebvre and Schafer’s shared adoration for the metaphor of musical composition, their insistence on a prerequisite of diverse knowledge for effective pursuits in rhythmanalysis and acoustic design are remarkably similar. Lefebvre claims that the rhythmanalyst is “strictly speaking neither psychologist, nor sociologist, nor anthropologist, nor economist; however he borders on each of these fields in turn and is able to draw on the instruments that the specialists use. He therefore adopts a transdisciplinary approach in relation to these different sciences.”<sup>74</sup> Schafer calls for a comparable pool of available wisdom for successful acoustic design: “The true acoustic designer must thoroughly understand the environment he is tackling; he must have training in acoustics, psychology, sociology, music, and a great deal more besides, as the occasion demands.”<sup>75</sup>

In chapter three I will apply Henri Lefebvre’s rhythmanalysis to a soundscape environment in much the same vein as Lefebvre has done himself in the chapter “Seen from a Window” in *Rhythmanalysis*. Chapter three will discuss some fundamentals of

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<sup>72</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 87.

<sup>73</sup> Schafer, R. Murray, *Tuning of the World*, 205.

<sup>74</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 87.

<sup>75</sup> Schafer, R. Murray, *Tuning of the World*, 206.

soundscape study in the guise of both Lefebvre's and Schafer's work. The later part of 27  
the chapter will also comprise of the case study "Heard from a Window."



In this chapter I consider the study of soundscape. I argue that elements of Lefebvre's rhythmanalysis may function as useful tools in the study of sound environments. I will suggest that these aspects of rhythmanalysis parallel and complement the important soundscape research that R. Murray Schafer has conducted over the past four decades. To demonstrate the imbrications between Lefebvre's and Schafer's work, I will first consider how the rhythmanalytical method corresponds to and diverges from Schafer's soundscape analyses. Secondly, I will draw from both Schafer and Lefebvre to analyze a soundscape environment that I have personally experienced and inhabited. Using Lefebvre's essay "Seen from a Window" from *Rhythmanalysis* as a model, I will propose an approach to the examination of soundscapes which draws from both Schafer's and Lefebvre's methods.

Today the term soundscape has a popular position in the textual Zeitgeist, but just over forty years ago the term did not even exist. R. Murray Schafer acknowledged the value of soundscape study in *The Tuning of The World*, his 1977 book that has often been referred to as "the bible" of soundscape studies. In *The Tuning of The World* Schafer proclaimed the important role that soundscape plays in understanding the workings of contemporary society. "For some time I have believed that the general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending evolution of that society."<sup>76</sup>

As noted in chapter two, Henri Lefebvre developed a system for classifying the rhythms of society within his rhythmanalysis methodology. Schafer also created a taxonomy for soundscape in his effort to encourage a more careful study of sonic

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<sup>76</sup> Ibid., 7.

environments and their meanings in a society. According to Schafer, soundscapes are comprised of “keynote” sounds, “signals,” and “soundmarks.” Keynote sounds form the foundation of a soundscape. They serve as a sort of tonic, to use a musical metaphor. “Keynote sounds don’t have to be listened to consciously,” notes Schafer, they include sounds like water, the wind, birds, and insects. “They are overheard but cannot be overlooked...the keynote sounds of a given place are important because they help to outline the character of men living among them.”<sup>77</sup> Signals are the foreground sounds that are listened to consciously, such as Bells, whistles, and horns. Signals are sounds meant to gain attention. Soundmarks, like landmarks, are sounds that are specific to a community or place, for instance the firing of the canon every day at noon from the Citadel National Historic site in central Halifax, Nova Scotia.

### **The Evolution of a Soundscape**

According to Schafer, consideration must be given not only to a sound’s source, but also its evolution. Schafer refers to the forests of British Columbia as a great example of an environment with an ever-changing keynote sound. He suggests that the first keynote sound noted by western settlers was the silence cast by the dense forest. “The lack of undergrowth or openings into clearings keeps the British Columbia forests usually free of animal, bird and insect life, a circumstance which produced an awesome, even sinister impression on the first white settlers,” explains Schafer. “The uneasiness of the early settlers with the forest, and their desire for space and sunlight, soon produced another keynote sound: the noise of lumbering. At first it was the woodsman’s axe that was heard just beyond the ever-widening clearing. Later it was the cross-saw, and today

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<sup>77</sup> Ibid., 9.

it is the snarl of the chainsaw that resounds throughout the diminishing forest communities of North America.”<sup>78</sup>

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When considering the sounds associated with logging, we must also consider change in the sounds themselves. The mechanistic chainsaw sounds of modern deforestation produce a blanket of sound that could be likened to a white noise bath. The accumulation of sounds produced by contemporary for-profit logging are examples of what Lefebvre would describe as a capital-based state of repetition, otherwise known as a linear rhythm. The soundscapes generated by mechanized equipment produce far less variation in sound and rhythms than the settlements of the early decades of the twentieth century when irregular human-driven logging equipment (i.e. saws, axes) was used. Schafer refers to the sonic environment created by this cacophony of chain saws as a “lo-fi” soundscape because a high level of broadband, ambient noise exists. Schafer uses the term “hi-fi” to describe nuanced soundscapes where discrete sounds can be heard clearly because of the low ambient noise level. According to Schafer, many soundscapes, forest environments included, have transitioned from hi-fi to lo-fi over the course of many centuries.

The country is generally more hi-fi than the city; night more than day; ancient times more than modern. In the hi-fi soundscape, sounds overlap less frequently; there is perspective—foreground and background. In a lo-fi soundscape individual acoustic signals are obscured in an overdense population of sounds. The pellucid sound—a footstep in the snow, a church bell across the valley or an animal scurrying in the brush—is masked by broad-band noise. Perspective is lost. On a downtown street corner of the modern city there is no distance; there is only presence.<sup>79</sup>

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<sup>78</sup> Ibid., 23.

<sup>79</sup> Ibid., 43. Bold in original.

The sounds made by a chainsaw eclipse all other sounds in a forest. This lo-fi, “broad-band” linear noise masks the cyclical rhythms within which its residents and animals naturally function. 31

In Schafer’s opinion, early settlers experienced an arrhythmia between themselves and the deafening silence of the dense forest environment. This disharmony resulted from the “uneasiness” that newcomers experienced when they encountered the hitherto unknown sonic environment. Lefebvre suggests that the human body must serve as “the metronome” for rhythmanalysis.<sup>80</sup> This idea can be applied to the settler’s physiological responses to the forest. As settlers engaged in the clearing of treed areas, the arrhythmia between their individual physiology and the dense forest was replaced by a eurhythmic relationship with open spaces. The new sounds of occupation and tree falling corresponded more closely with the habits and cyclical patterns of early settlers (although this activity likely resulted in an arrhythmic experience among the forest’s preexisting aboriginal and animal inhabitants). For Euro-Canadian settlers, the physical space created by deforestation provided psychological and physical space. Therefore the cyclical nature of the settler’s bodies and the forest-clearing workday were in a form of balance. For the settler, this congruity between rhythms operated in an isorhythmic fashion.

### **Schafer and Lefebvre**

Looking at the interstices of Lefebvre’s and Schafer’s work is useful in thinking through rhythmanalysis and soundscape together. Both theorists consider rhythm and sound in relation to political and social change. Schafer explains that although lumbering once harmonized with the desires of early settlers, as time wore on, the sounds of

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<sup>80</sup> As Stuart Elden brought attention to in the previously mentioned introduction to *Rhythmanalysis*.

deforestation and the constant “snarl of the chainsaw” eventually came to signify the “diminishing forest communities” of North America. The soundscape altered by logging, which once granted residents sun and space, came to signify capitalistic production and economically based logging practices. Similarly, Lefebvre applies rhythmanalysis to understand the impact of capitalist production on the rhythms of everyday life. Clare Revol explains the political implications of rhythmanalysis in her article

“Rhythmanalysis in Practice”:

Everyday life is still related to the structures even if the structures are residual. The belief of a revolutionist like Lefebvre is that a change of governance could change the most intimate and visible elements of everyday life; consequently, it would change the rhythms. This means that we have to find an order of rhythms in the political power. If we want to consider the meaning of the continuity that we observed and analyze it, we have to understand the link between everyday life and history.<sup>81</sup>

In the preceding analysis of Schafer’s forest project I have outlined a simple application of rhythmanalysis, posthumously if you will, to a soundscape. However, according to Lefebvre, in order for rhythmanalysis to be properly integrated, the rhythmanalyst must be part of the equation. In the third chapter of *Rhythmanalysis*, “Seen from the Window”, Lefebvre endeavors to apply rhythmanalysis to a Paris street from his apartment window. The chapter reveals Lefebvre’s only experiential trial in the book and provides valuable insight into a methodology for applying rhythmanalysis in situ.

Lefebvre begins his rhythmanalysis of a Paris intersection by finding the perfect vantage point. Throughout his text, Lefebvre frequently asserts that the rhythmanalyst must be positioned both “inside and outside” of the environment being analyzed. For Lefebvre, this double entendre refers to both the physical and the existential. He alludes to self-reflexivity, which is required for the rhythmanalyst to both explore and participate

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<sup>81</sup> Claire Revol, “Rue Rambuteau Today: Rhythmanalysis in Practice,” 8.

in what is being observed. In “Seen from the Window” Lefebvre positions himself “inside” his apartment while also “outside” on the balcony in the flux of the rhythms that he observes. His choice of the balcony as his prime vantage point seems incongruous considering that the chapter is titled “Seen from a Window.” However, Lefebvre assures us that a window would be an adequate substitute “on the condition that it does not overlook a somber corner or gloomy internal courtyard.”<sup>82</sup> Lefebvre’s seemingly confused title possibly hints to more than a simple slipup in terminology. When Lefebvre uses the term “window” he could be referring to his own indelible position as a surveyor and critique of society rather than one of its participants. Within this perspective Lefebvre can do his research on the inside looking out, possibly granting him more personal authority to condemn the capitalist construct that provides him the “window” to do it through.

Interestingly, Lefebvre begins his analysis with a study of a man other than himself. “He who walks down the street, over there, is immersed in the multiplicity of noises, murmurs, rhythms (including those of the body, but does he pay attention, except at the moment of crossing the street, when he has to calculate roughly the number of his steps?).”<sup>83</sup> Lefebvre’s insistence on the body as an essential component of the rhythmanalytical dialectic is given a twist here when he casts himself into the body of another, the man walking. The philosopher provides two perspectives of the same space and time by contrasting what he distinguishes as the man on the street’s perceptions with that of his own.

...from the window, the noises distinguish themselves, the flows separate out, rhythms respond to one another...One does not chatter while crossing a

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<sup>82</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 28.

<sup>83</sup> *Ibid.*, 28.

dangerous junction under the threat of wild cats and elephants ready to charge forward, taxis, buses, lorries, various cars. Hence the relative silence in this crowd. A kind of soft murmuring, sometimes a cry, a call.<sup>84</sup>

This quote is an example of Lefebvre's whimsical style of writing. It also demonstrates the subjectivity of the rhythm analytical approach. On one hand Lefebvre is empirically cataloguing the rhythms while on the other hand he is describing his embodied experience.

Lefebvre induces the poetic element of rhythm analysis with his prose-like meter and anthropomorphic approach to transportation vehicles. When discussing the rhythm of traffic, danger seems to be the operative control. Lefebvre frequently refers to noise as a major element of the modern rhythmscape. How is noise categorized?

### **Who's Noise?**

In his essay "Sound, Noise, Varese, Boulez", composer Morton Feldman described noise as a word in which the aural image is all too evasive.<sup>85</sup> Another description of noise comes from French philosopher Jacques Attali who claims that noise is a source of power and is "equivalent to the articulation of a space, it indicates the limits of a territory and the way to make oneself heard within, how to survive by drawing one's sustenance from it."<sup>86</sup> Attali's definition resonates within the parameters of soundscape study, which in turn deals with space in ways beyond the obvious aural context. But what distinguishes noise from sound and music?

In 1969, R. Murray Schafer attempted to define noise as non-subjectively as possible with a description he credits to communication engineers:

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<sup>84</sup> Ibid., 28.

<sup>85</sup> Christopher Cox and Daniel Warner, eds. *Audio Culture: Readings in Modern Music*, (New York: Continuum, 2004): 8.

<sup>86</sup> Ibid., 8.

When someone is transmitting a message *any* sounds or interferences which impair its accurate transmission and reception are referred to as *noise*. *Noise is any undesired sound signal*. This makes noise, to be sure, a relative term; but gives us the flexibility we need when we refer to sound. In a concert if the traffic outside the hall disturbs the music it is noise. But if, as John Cage has done, the doors are thrown open and the audience is informed that the traffic constitutes part of the texture of the piece, the sounds cease to be noise.<sup>87</sup>

According to Schafer's definition, there is no noise in any soundscape unless we consider silence as the message being impaired. Lefebvre takes a different approach to noise. He insists that noise is chaotic and has no rhythm:

Noises. Noises. Murmurs. When lives are lived and hence mixed together, they distinguish themselves badly from one another. Noise, chaotic, has no rhythm. However, the attentive ear begins to separate out, to distinguish, the sources, to bring them back together by perceiving interactions.<sup>88</sup>

Lefebvre puts the onus on the observer to distinguish rhythms within noise by deciphering the individual sound objects that noise contains. Correspondingly, Schafer's "noise," any undesired sound signal, also casts ultimate subjectivity upon the interpreter—who must determine the signal that is desired. Lefebvre has a less nuanced approach to noise than Schafer. Lefebvre suggests that the rhythm analyst should listen to noise and attempt to separate sound sources, or individual sound objects. However, according to Schafer the distinctiveness of the collective sound may be lost in this process. Schafer elaborates on the notion of the collective sound with a prophetic metaphor:

...for the soundscape researcher, the aggregate should never be confused with the singular, for they are not at all the same thing. The soundscape researcher must always remember Zeno's paradox: "If a bushel of corn turned out upon the floor makes a noise, each grain and each part of each grain must make a noise likewise, but in fact, it is not so." The aggregate sound of a texture is not merely a simple sum of a lot of individualistic sounds – it is *something different*. Why elaborate

<sup>87</sup> R. Murray Schafer, *The New Soundscape: A Handbook for the Modern Music Teacher*, (New York, Associated Music Publishers, 1969): 17.

<sup>88</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 27.



combinations of sound events do not become “sums” but “differences” is one of the most intriguing aural illusions.<sup>89</sup> 36

Applying Zeno’s paradox on the largest level, we must therefore consider the whole soundscape, including noise, as well as its individual components of the whole soundscape in order to truly analyze rhythms within the dialectic soundscape. The soundscape is comprised of a layered aesthetic in which all layers should be considered important elements.

### **Case Study**

In the following pages I will examine the processes that Lefebvre employs as he considers urban rhythms from his balcony. I will use Lefebvre’s analysis as a template to rhythmally analyse a soundscape from my own balcony, located in downtown Halifax. Schafer’s work will also play a vital role in this case study. Schafer’s work exemplifies rigorous soundscape analysis, while Lefebvre’s work could be described as a poetic examination of societal rhythm. I propose that when used together, Schafer’s and Lefebvre’s methods create a powerful “one-two punch”. In short, Schafer considers the soundscape as a scientist observing from his laboratory, whereas Lefebvre considers the rhythm analysis as more of an embodied, participatory research. Lefebvre focuses more on the political and economic rhythms of the environment itself, driven by people, while Schafer’s focus is directed towards compartmentalized acoustic ecology, although not without a deep understanding that people are the sound designers of society.

In my discussion of *Rhythm Analysis*, I have located four unique tools for thinking through sound environments. I propose that these specific elements of Lefebvre’s method complement, and expand on Schafer’s fundamental approach to soundscape. First,

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<sup>89</sup> Schafer, R. Murray, *Tuning of the World*, 159.

Lefebvre's rhythmanalysis is experiential; he has a unique approach utilizing embodied research, which while now becoming more popular, was very much off the radar in the 1980s when Lefebvre wrote *Rhythmanalysis*. Second, Lefebvre has laid out a methodology for analyzing rhythms as they interact with each other creating polyrhythmic equations where two or more rhythms, or sounds, are either eurythmic, arrhythmic, or isorhythmic. Third, he has uniquely provided a concept of oppositions to be applied to rhythms or sounds such as organic or mechanical, and more significantly cyclical and linear. Lefebvre encourages the rhythmanalysisist or soundscape researcher to be aware of the monotonous and repetitive grind of the linear rhythms that drag an unhealthy state of minutia into the everyday. And lastly, in his chapter "Seen Through a Window" Lefebvre offers a model for poetic applications in deducing not only the awareness of the rhythms of everyday life but also the social, economic and political causes and ramifications of these rhythms, and thereby sounds. The four tools are often used in concert with one another and will not be presented in any particular order.

This experiment will hopefully inspire a process that can be applied to any soundscape environment. I will focus on the auditory as a primary point of contemplation both when considering Lefebvre's account from "Seen from a Window" and in my own experiences rhythmanalysing the sounds of Halifax from my own apartment.

### **Heard from the Window**

Similar to Lefebvre's Paris living quarters, I also have a balcony in which to view, and more importantly hear, the events going on in a two or three block radius. Lefebvre's balcony opens up to Rue Rambuteau: "To the right, the palace-centre P., the Forum, up as far as the (central) Bank of France. To the left up as far as the Archives. Perpendicular

to this direction, the *Hotel de Ville* and, on the other side, the *Arts et Metiers*.<sup>90</sup> My apartment is located on the twelfth floor of a high-rise apartment building with the balcony facing the busiest street in Halifax, Spring Garden Road. Directly across the street is the Public Gardens, a gated park featuring walking trails and flowerbeds. The gardens are open seasonally and they close every day after dark. To the right of the gardens is a busy intersection, brandished by businesses, restaurants and bars. To the left a school, followed by a steady stream of apartment buildings and condominiums. My twelfth story vantage point, approximately 37 meters above the ground and higher than most of the surrounding buildings, is ideal for soundscape study.

It is 8:45 on a Friday morning in early June. The freshness of a new day imposes an invisible excitement into the air. Time of day is essential data when considering rhythms so it seems like an adequate place to begin. Lefebvre gives the reader a few glimpses into analyzed temporality in “Seen Through a Window”: “The fateful hour: ten ‘o’ clock in the evening, noises forbidden: so the crowd becomes silent, calm but more melancholy; oh fatal ten o’ clock at night!”<sup>91</sup> From my window, the first sound of my day, a keynote sound, is the ambient whirl of traffic, wind, trees, living things and electrical humming. Schafer classifies interwoven city buzz as lo-fi. However, I am able to differentiate many individual sounds, at their own discernable levels, which leads me to characterize the downtown Halifax soundscape as at least partially hi-fi. Over the ambient din, a few children playing and the distant caw of a crow convey the presence of humanity and nature. The setting for my own case study uncannily includes many of the

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<sup>90</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 28.

<sup>91</sup> *Ibid.*, 28. Bold in original.

same subjects as Lefebvre's; schoolchildren, shoppers, tourists, and vehicles. Lefebvre in 39  
from "Seen from the Window":

These last rhythms (schoolchildren, shoppers, tourists) would be more **cyclical**, of large and simple intervals, at the heart of livelier, **alternating** rhythms, at brief intervals, cars, regulars, employees, bistro clients. The interaction of diverse, repetitive and different rhythms animates, as one says, the street and the neighbourhood. The linear, which is to say, in short, succession, consists of journeys to and fro: it combines with the cyclical, the movements of long intervals. The cyclical is social organization manifesting itself. The linear is the daily grind, the routine, therefore the perpetual, made up of chance and encounters.<sup>92</sup>

This excerpt from "Seen from the Window" functions as an excellent example of Lefebvre's poetic style and qualifies the rhythms as cyclical and linear thereby commenting on their essence and effects on the everyday.

Back to my Halifax balcony, the roar of a passing bus quickly drowns out the sound of the children and bird. After the bus passes, the ambiguous silence of the metropolitan ambient whirl becomes the prominent sound once again as the children funnel into the neighbouring school. However, that "silence" is quickly overwhelmed by another passing bus only one minute after the first one. Another thirty seconds go by and the ambience is accented by two sharp car horn honks. Another minute goes by, and yet another bus dominates the soundscape. After the third bus thunders by, a birdsong breaks the monotony. A fourth bus lumbers by after approximately another minute. A recognizable rhythm is emerging. The bus fades and the birdsong prevails again, random chirps, in what seems to be an entirely improvised rhythmic form. I sneeze twice loudly. Does this count as part of the soundscape? Self-reflexivity is surely a component of rhythmanalysis. I am the observer, but I am also part of the soundscape. Lefebvre theorizes in an early passage of his text that the rhythmanalyst only notices his or her own

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<sup>92</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 30.

body if an arrhythmia occurs. This has occurred here as my sneeze has jarred my natural relaxed rhythms. However, Lefebvre does not refer to himself in his own applications in “Seen from a Window” so an exact application as he meant it is somewhat inconclusive. 40

Perhaps the matter of scale is what is most important here. The rhythm analyst must take into consideration the level of the scale of all sounds being observed. Who can hear what and when? This posits my own sneeze as nothing more than a personal reference to measure the rhythms being analyzed, a theory that aligns well with Lefebvre’s notion that the observer’s internal measure act only as the “metronome” by which to scale observed rhythms and should not be noticed unless an arrhythmia has occurred, which in the case of the sneeze, it has. Lefebvre makes this clear in the first paragraph of “Seen from the Window”:

If we cease to listen to sounds and noises and instead listen to our bodies (the importance of which cannot be stressed too greatly), we normally grasp (hear, understand) neither the rhythms nor their associations, which nonetheless constitute us. It is only in suffering that a particular rhythm breaks apart, modified by illness. The analysis comes closer to pathology than habitual arrhythmia.<sup>93</sup>

As previously noted, Lefebvre supplies a series of concepts and oppositions for the rhythm analyst to consider as his or her point of departure: repetition and difference, mechanical or organic, cyclical or linear, and continuous or discontinuous. The most continuous sound, the keynote, is the ambience of the city. The gentle hum of the city soundscape exemplifies Schafer’s definition of the keynote sound. Schafer distinguishes keynotes as sounds that are “not consciously perceived, but they act as conditioning agents in the perception of other sound signals.”<sup>94</sup> The subtle, yet also dense, city

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<sup>93</sup> Ibid., 29.

<sup>94</sup> Ibid., 279.

soundscape provides a drone-like backdrop for the other layers of sound brought into play in this moment-by-moment urban symphony.

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The city ambience is continuous, although its density levels vary slightly depending on what time of day it is. The bed of sound itself is constituted of traffic sounds and electrical hums, but also trees rustling, winds, and noises emitting from animals, insects and people. The city ambience is an ambiguous mix of the mechanical and the organic, the cyclical and linear.

The high-pitched frenzied murmurs of school children are the next compartment of sound identified. The children yell, scream, and laugh in an aggregate form as the sound of the individual child within the group, much like the grain of corn in Zeno's paradox, becomes irrelevant. An organic sound, to be sure, although the timing of the children gathering is entirely based on the linear scheduling of the proletariat school day. Therefore, the sound of the children playing must be considered also a linear sound due to its relation to scheduled temporality, traditionally based on the reoccurring workday instituted during and maintained since the Industrial Era. The schoolchildren represent a hybrid of cyclical and linear rhythms. As noted by Lefebvre in "Scene From a Window," the schoolchildren represent "large and simple intervals, at the heart of livelier, alternating rhythms"<sup>95</sup> giving the sound of the schoolyard an at least partially cyclical quality. I will analyze the relationships between the rhythms later on in this chapter, but a quick analysis finds a definite arrhythmia between the children loudly playing in the neighboring schoolyard and my nocturnal sleep habits.

Dominating the soundscape as the true kings of the concrete jungle, city transit buses provide the premise for comprehensive discussion. The sound of the commuter bus

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<sup>95</sup> Ibid., 30.

is multilayered. First, there is the roaring whine of the engine, unmistakable in its cadence from any other vehicle. This is due to the bus's six-cylinder diesel engines, which create torque by engaging with the machine's heavy-duty transmission. An accelerating bus can be as loud as 96 decibels within a 100-meter radius. Compare that with birdsong heard from 10 meters that has a volume of 60 decibels.<sup>96</sup> Second, there are the inimitable breaths of the bus's air brakes, sometimes accompanied by the falsetto screams of worn break shoes rubbing against the wheels.

When accelerating, the bus represents a definite rhythm. The attack, decay, sustain and release of the engine and transmission varies with each acceleration, depending on the pressure applied to the accelerator by the driver. Here we have difference and repetition including stronger and weaker moments. The driver's control over the mechanics integrates an organic, human aspect to the rhythmic equation. This represents a complex myriad of linear and cyclical rhythms interacting much like they do in everyday life - a mesh of man and machine, living and inanimate, corporeality and technology. The human link to machinery, social and economic systems, and therefore industrial sounds, is an important one. Leo Marx expands on the relationship between man and machine through his commentary on the writings of the nineteenth-century author Thomas Carlyle:

Carlyle extends the effects of "machinery" to the emergent social and economic system which he would soon name "industrialism". It is the second, or "inward," sense of the word "machine," however, to which Carlyle devotes most attention. What concerns him is the way the "mechanical genius...has diffused itself into quite other provinces. Not just the external and physical alone is now managed by machinery, but the internal and spiritual also." Here "machinery" stands for a principle, or perspective, or system of value which Carlyle traces through every department of thought and expression: music, art, literature, science, religion, philosophy, and politics. In each category he detects the same tendency: an

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<sup>96</sup> Schafer, R. Murray, *Tuning of the World*, 137.

excessive emphasis upon means as against ends, a preoccupation with the external arrangement of human affairs as against their inner meaning and consequences.<sup>97</sup> 43

Here Marx points towards the undeniable link between man and machine, which is even more pronounced in contemporary Western society. It is evidential of the constantly intertwining cyclical and linear rhythms that for the polyrhythmic grid our everyday lives revolve around. This relationship involving the intertwining rhythms between man and machine is a complex one, and Lefebvre possibly falls short in his analysis during “Seen from a Window” in not recognizing the human role behind the curtain of every machine, every mechanical sound and rhythm. Perhaps his focus is more directed at a study of the natural cycles of people as a separate entity from machines in an attempt to bring awareness to a society that some might argue has become naïve to the seemingly unstoppable mechanization that currently proliferates it.

While he doesn’t delve too intensely into the relationship between man and machine, Lefebvre does acknowledge that engine sounds lay the foundations of rhythm in the city, and all others, such as that of people and nature, are relegated to superimpose themselves on top of this relentless rhythm.

...the people produce completely different noises when the cars stop: feet and words. From right to left and back again. And on the pavements along the perpendicular street. At the green light, steps and words stop. A second of silence and then it’s the rush, the starting up as quickly as possible. At some risk: passers-by to the left, buses cutting across, other vehicles. Whereby a slowing down and a restart (stage one: starting up – stage two: slowing down for the turn – stage three: brutal restart, foot down, top speed, excluding traffic jams...)<sup>98</sup>

Natural, or as Lefebvre would argue cyclical sounds, are more pleasing to a much larger segment of society with the possible exception of engine aficionados and over

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<sup>97</sup> Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America*, (New York: Oxford University Press, 1964), 109-110.

<sup>98</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 28.



zealous Harley Davidson motorcycle riders. Schafer is forthright, and slightly facetious, 44  
about this detail in his 1993 publication *Voices of Tyranny: Temples of Silence*:

The rhythms and communication systems of the natural soundscape teach us that God was, or is, among other things, a first-rate acoustical engineer. There are simply no sounds in nature that will destroy your hearing. I have often thought of this as I listen to the interactive messages of the natural soundscape, where there is always a time for sounding and a time for listening. Even when I move my limbs I marvel at how quietly they move and wonder what sound they would have made if they had been designed in the factories of the Industrial Revolution or the assembly lines of Detroit.<sup>99</sup>

In the case of city buses and general traffic, the profound effect these entities have on the rhythms of everyday life is undeniable. Many of the people on the bus are destined for work—commuting to jobs that they need to sustain life under the capitalist economic system. Linear rhythms overshadow cyclical rhythms on a commuter bus. The commuter, first and foremost, must reflect on the time that it takes to travel to their work place when considering when to eat, when to spend time with family, or even go to the bathroom. The rhythm of the bus sounds and their domination of the soundscape provide a good point for micro focus in considering the subordination of the soundscape in the guise of capitalist economic systems. Here we can recall Mohamed Zayani’s quote from chapter two in which he states “alienation is no longer limited to the economic principle of production for the sake of production. It is ensconced in all the spheres of vital activities; it is associated with the repetitive, the recurrent, the tautological, and pleonastic.”<sup>100</sup> The constant drone of buses in the city soundscape represents an extension of Zayani’s warnings regarding the linear drone behind capitalist production; everyday the same scheduling, the same commute for many passengers, and the same

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<sup>99</sup> R. Murray Schafer, *Voices of Tyranny: Temples of Silence*, (Indian River, Ont.: Arcana, 1993): 9.

<sup>100</sup> Zayani, Mohamed, “Introduction to Rhythmanalysis,” *Rethinking Marxism* (Spring 1999): 3.

decimation of the listening environment at constant intervals for people within their sonic radius. 45

### **Conclusions**

In modeling Lefebvre's kinetic chapter "Seen from a Window," my own research into soundscape has illuminated the extent that rhythm analysis, used in conjunction with Schafer's research, can contribute to soundscape study. Lefebvre's poetic style offers an ethereal perspective on everyday life:

Rhythms. Rhythms. They reveal and they hide. Much more diverse than in music, or the so-called civil code of successions, relatively simple texts in relation to the City. Rhythms: the music of the City, a scene that listens to itself, an image in the present of a discontinuous sum. Rhythms perceived from the invisible window, pierced into the wall of the façade... But next to the other windows, it *is* also within a rhythm that escapes it...<sup>101</sup>

The metaphor and ornamental style of prose that Lefebvre uses here gives the reader a sense of the overall sensations presented by the rhythms of the city and reminds the rhythm analyst of the value of literal imagery in analyzing rhythms, which are living, breathing entities.

Theories surrounding the identification of cyclical and linear rhythms prove to be one of the most effective tools from rhythm analysis when thinking through soundscape. Applying Lefebvre's concept of oppositions to soundscape study also yields some compelling conclusions. Utilized in addition to Schafer's soundscape taxonomy, rhythm analysis provides an extended apparatus for examining the social, political, and economic origins and effects of soundscape scenarios. Connecting Schafer's instrumental research on soundscape with Lefebvre's novel innovations in rhythm analysis demonstrates several congruities between the two disciplines. At the core

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<sup>101</sup> Henri Lefebvre, *Rhythm Analysis: Space, Time and Everyday Life*, 36.

of their work exists an undercurrent of socio-economic and political purpose in which 46  
both scholars believe a return to more natural, cyclical way of life would be beneficial to  
society. Schafer takes the more concrete route as far as sound is concerned in suggesting  
that an industrial noise driven economy is problematic:

Noise is often a commodity, manufactured and sold with a purpose. Whether it is a siren, a motorcycle or a radio makes little difference; behind every item is an institution seeking profit from dissonance. These are the Voices of Tyranny. Against them are ranked the Temples of Silence, the quiet environments where sounds are more conspicuous by their scarcity. There is exuberance here but there is no waste. We think of a temple, but it is really an attitude of mind, and it is one we need to recover in the modern world.<sup>102</sup>

Lefebvre approaches his intentions in a more abstract, but equally engaging, fashion:

...the brave people not only move alongside the monster but are inside it; they live off it. So they do not know how it works. The informational reveals only tiny details and results. Would one of your cells, if it put itself to it, understand your body? These people who moreover move everyday alongside infamous events, great abuses and horrors, find themselves neither horrified or infuriated by them. They are facts. They were taught that these are simple facts among many others and so it's fine.<sup>103</sup>

Lefebvre and Schafer are also strong communicators. Both scholars demonstrate a deep passion for their theories, which positions them at the top of their field. The ability to apply an educated ambiguity and the sophisticated subtleness needed for evoking a strong analysis of rhythms and soundscape resonates at the core of both Schafer and Lefebvre's work. To keep asking questions is the key. Lefebvre reminds us at the end of "Seen from a Window" that research into the rhythms of the everyday is a highly subjective process, and the rhythm analyst must always be aware of "the concept of *dialectical thought* that does not cease to fill these pages with so many questions and but a few answers!"

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<sup>102</sup> R. Murray Schafer, *Voices of Tyranny: Temples of Silence*, 9.

<sup>103</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 55.

The ideas presented in this chapter correspond to arguments presented in chapter three. In the following pages I will apply elements of rhythmanalysis to a specific branch of soundscape study—soundwalking. I will suggest that both disciplines are forms of embodied research that complement one another.

Soundwalking, or as Schafer prefers *listening walking*<sup>104</sup>, is a soundscape discipline that emerged from the World Soundscape Project in the early 1970s. A colleague and disciple of R. Murray Schafer, Hildegard Westerkamp, has been one of the main proponents of the practice of soundwalking for the past forty years. Westerkamp laid the foundation for soundwalking in an article she originally wrote for the *Sound Heritage Journal* in 1974:

A soundwalk is 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. We may be at home, we may be walking across a downtown street, through a park, along the beach; we may be sitting in a doctor's office, in a hotel lobby, in a bank; we may be shopping in a supermarket, a department store, or a Chinese grocery store; we may be standing at the airport, the train station, the bus-stop. Wherever we go we will give our ears priority.<sup>105</sup>

Although Westerkamp's initial description seems far-reaching, Andrea Poli reminds us that planned soundwalks are actually a form of embodied research. "Soundwalking as defined by Westerkamp is an embodied method of personally connecting with the soundscape through focused listening, while physically moving through space."<sup>106</sup> The actual mechanics of soundwalking can be created specifically for certain locations with a

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<sup>104</sup> John Levack Drever, "Soundwalking: Aural Excursions into the Everyday," In: James Saunders, ed. *The Ashgate Research Companion to Experimental Music* (Aldershot: Ashgate, 2009): 190.

<sup>105</sup> Hildegard Westerkamp, "Soundwalking," in *Autumn Leaves, Sound and the Environment in Artistic Practice*, Ed. Angus Carlyle, (Paris: Double Entendre, 2007): 49.

<sup>106</sup> Andrea Polli, "Soundscape, Sonification, and Sound Activism," 259.

elaborates:

A soundwalk can be designed in many different ways. It can be done alone or with a friend (in the latter case the listening experience is more intense and can be a lot of fun when one person wears a blindfold and is led by the other). It can also be done in small groups, in which case it is always interesting to explore the interplay between group listening and individual listening by alternating between walking at a distance from or right in the middle of the group. A soundwalk can furthermore cover a wide area or it can just centre around one particular place. No matter what form a soundwalk takes, its focus is to rediscover and reactivate our sense of hearing.<sup>107</sup>

I propose that certain elements of rhythmanalysis, when combined with soundwalking practice, will contribute to an expanded understanding of an environment. Both methodologies, rhythmanalysis and soundwalking, capitalize profoundly on the practice of embodied research. Donna Haraway's notion of *situated knowledge* can be used to think through both Lefebvre's and Westerkamp's research practices. *In Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective* (1988), Haraway encourages forms of embodied research that do not suggest the world simply as an "object" of knowledge or a "passive and inert thing" but rather a living entity in that the researcher has an undeniable effect upon.<sup>108</sup> While Westerkamp's technique emphasizes the "embodied nature of listening," Schafer's work emphasizes the variable nature of sound and its inextricable connection to place.<sup>109</sup> In an essay written twenty years after Haraway's influential text, Mika Hannula describes an analogous experiential approach to artistic research, which he defines as "a never ending process of

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<sup>107</sup> Hildegard Westerkamp, "Soundwalking," 49.

<sup>108</sup> Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, 3 (Autumn, 1988): 575–599.

<sup>109</sup> Andrea Polli, "Soundscape, Sonification, and Sound Activism," 257.

being-with, of being-in-the-world.”<sup>110</sup> In “Catch Me if You Can: Chances and Challenges of Artistic Research”, Hannula reveals his method for qualitative research which involves situating oneself in a long-term artistic practice and speaking from a value-laden position.<sup>111</sup>

Westerkamp begins her explanation of soundwalking by noting that the first focus of attention must be on the soundwalker’s own body. “Start by listening to the sounds of your body while moving”, encourages Westerkamp. “They are closest to you and establish the first dialogue between you and the environment.”<sup>112</sup> Westerkamp’s advice is analogous to Lefebvre’s insistence that the rhythm analyst consider his or her own body as the internal measure, or metronome, in which to consider all other sounds in the environment. Geographer Yi-Fu Tuan reminds us that in embodied research ‘the feel of a place is registered in one’s muscles and bones,’<sup>113</sup> a sentiment that both Lefebvre and Westerkamp infer is integral in their methodologies. In her 1999 dissertation “Sounding Places: Situated Conversations Through the Soundscape Compositions of Hildegard Westerkamp”, Andra McCartney explains Westerkamp’s philosophy regarding embodied research in the context of some of her electroacoustic soundscape compositions:

Westerkamp’s wildernesses are always peopled. In *Beneath the Forest Floor*, we hear a human presence in the far-off sound of a chainsaw: humanity as threat, much more distant than Schafer’s use of the snowmobile in *North/White*, without this human-nature drama being central to the piece. In *Cricket Voice*, we hear the artists’ clapping and stomping. In *Cordillera*, Ruebsaat’s voice reading poetry asserts a human presence... Westerkamp insists on a human presence in her work.<sup>114</sup>

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<sup>110</sup> Mika Hannula, “Catch Me If You Can: Chances and Challenges of Artistic Research,” *Art and Research* 2:2 (Spring 2009): 6.

<sup>111</sup> *Ibid.*, 6.

<sup>112</sup> Hildegard Westerkamp, “Soundwalking,” 49.

<sup>113</sup> Yi-Fu Tuan, *Space & Place: The Perspective of Experience* (Minneapolis, 1977): 184.

<sup>114</sup> Andra McCartney, “Sounding Places: Situated Conversations Through the Soundscape Compositions of Hildegard Westerkamp” (PhD diss., York University, 1999): 257.

Westerkamp's insistence on a human presence in her work demonstrates her less dogmatic stance regarding man versus nature in comparison to Schafer. Westerkamp seems to consider man, and as an extension man-made technology, an irrefutable part of nature, as much a part of the soundscape as the wind or the rain. After all, there is no soundscape without the human perception of it.

As discussed in previous chapters, Lefebvre suggests that for rhythmanalysis to be most effective there must be an integration of internal rhythms and external rhythms. In association with this integration, the rhythmanalyst must also exhibit the aptitude required to interpret each sound and rhythm individually. According to Lefebvre:

The rhythmanalyst will not be obliged to *jump* from the inside to the outside of observed *bodies*; he should come to listen to them *as a whole* and unify them by taking his own rhythms as a reference: by integrating the outside with the inside and vice versa. For him nothing is immobile. He hears the wind, the rain, storms; but if he considers a stone, a wall, a trunk, he understands their slowness, their interminable rhythm.<sup>115</sup>

This idea is theoretically an extension of Westerkamp's philosophy regarding the mindset required for soundwalks. In alignment with Lefebvre, Westerkamp encourages listening to the constituent parts of sounds while considering them as part of a "bigger environmental composition."<sup>116</sup> She suggests reassembling the sounds heard in the soundscape while attempting to metaphorically hear them as music played by different instruments in the mind's ear.<sup>117</sup>

Lefebvre's cyclical and linear classifications for rhythms can be applied while soundwalking. As discussed in chapter two of this thesis, Lefebvre believes that Western civilization would benefit from a return to nature, to the cosmic cycles that are most

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<sup>115</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 20.

<sup>116</sup> Hildegard Westerkamp, "Soundwalking," 50.

<sup>117</sup> *Ibid.*, 51.

healthy for society. Westerkamp follows a similar agenda in suggesting that soundwalking can be an effective method for rediscovering “natural” environments. In contemporary urban everyday life we must contend with what Lefebvre refers to as the “antagonistic unity” between the cyclical and linear, the natural and the mechanical. According to Lefebvre we must be aware of linear rhythms because it is their nature to “oppose that which becomes”. Lefebvre warns us that the linear “defines itself through the consecution and reproduction of the same phenomenon, almost identical, if not identical, at roughly similar intervals; for example a series of hammer blows.”<sup>118</sup>

Westerkamp champions awareness of these rhythms in sonic form:

...we all need to stay in touch with our surroundings, as every sound carries very specific meanings, no matter where we live. Even though, as urban beings, we can no longer fully integrate our lifestyles with the cycles of nature, it is vital that we retain conscious contact with our environment. Cities are full of acoustic clues which – on many levels – are important for our survival: we must listen to our cities as the indigenous people listen to their forests.<sup>119</sup>

Corresponding to Lefebvre’s hands-on approach to rhythmanalysis demonstrated in his case study “Seen through a Window,” Westerkamp provides an active interpretation of soundwalking in her pioneering *Sound Heritage* article. She lays out the following instructions in poetic form employing a strategy similar to portions on Lefebvre’s literal aesthetic in *Rhythmanalysis*:

Try to move  
Without making any sound.  
Is it possible?

Which is  
the quietest sound of your body?

(If, however, you cannot hear the sounds you yourself produce,  
you experience a soundscape out of balance. Human proportions have

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<sup>118</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 90.

<sup>119</sup> Hildegard Westerkamp, “Soundwalking,” 50.



no meaning here. Not only are your voice and footsteps inaudible but also your ear is dealing with an overload of sound).

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Lead your ears away from your own sounds and listen to the sounds nearby.

What do you hear? (Make a list)

What else do you hear?

Other people

Nature sounds

Mechanical sounds

How many

Continuoussoundscontinuous Continuoussoundscontinuous

Can you detect

Interesting rhythms

Regular beats

The highest

The lowest pitch.

Do you hear any

Intermittent or discrete sounds

Rustles

Bangs

Swishes

Thuds

What are the sources of the different sounds?

What else do you hear?

Lead your ears away from these sounds and listen

beyond-----into the distance.

What is the quietest sound?

What else do you hear?

What else?

What else?

What else?

What else?<sup>120</sup>

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<sup>120</sup> Hildegard Westerkamp, "Soundwalking," 51.

In accord with Lefebvre, Westerkamp points to contrasts and oppositions. Lefebvre speaks of continuous and discontinuous sounds and here so does Westerkamp.<sup>121</sup> She also integrates the question of oppositions, for example natural or mechanical, which Lefebvre touts as particularly useful touch points for awareness and analysis in his methodology.

Most obvious in its congruence with rhythmanalysis is Westerkamp's reference to "interesting rhythms." However, Westerkamp does not allude to any ideas pertaining to consideration of the polyrhythmic relationship between the rhythms. Applying rhythmanalysis in this soundwalk situation can expand the listener's sphere of perception to include some classification of how the sounds interact with each other in either a eurythmic, arrhythmic, or isorhythmic fashion. For example, Westerkamp urges the soundwalker to try to move without making a sound; "is this possible?" she asks. From the rhythmanalyst's perspective, it is not possible to move without making a sound, at least technically, due to breath of the subject, and if we really want to dig deeply the sound of bones, muscle, and the nervous system. However, even though the rhythmanalyst should be aware of these internal sonics, the sounds of the body should play more of a background role while existing primarily as a well functioning internal measure. The body is in a eurythmic state with the surrounding, unless an arrhythmia occurs and the breathing is labored or there is a defect in body function in which case the rhythmanalyst or soundwalker becomes all too aware of their own function. This type of self-reflexive, dialectic perspective considering not only the polyrhythmic realities of the

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<sup>121</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life*, 9.

outside sound world, but also that of the embodied researcher, is a good example of an additional tool rhythmanalysis lends to soundscape study. 54

Soundwalks can also be recorded, after which the audio data can possibly be used in electroacoustic soundscape compositions for performance, publication and broadcast, or simply for further analysis of the soundscape. Westerkamp has utilized recording technology thoroughly in her work. She sometimes manipulates a sound by focusing in on it and applying volume changes and effects to it in order to give the listener a microscopic perspective of a sound that might be otherwise nearly inaudible. This process will “position the microphone very close to the tiny, quiet, and complex sounds of nature, then amplify and highlight them...[so that] they can be understood as occupying an important place in the soundscape and warrant respect.”<sup>122</sup>

While easily available recording technology has given the everyday soundwalker the opportunity to reflect on their soundscape environment, recording also presents an effective paradigm for detailed rhythmanalysis. Lefebvre encourages the practice in his conclusions to *Rhythmanalysis*:

The theory of rhythms as such has received solid support from the possibilities of reproducing rhythms, studying rhythms by recording them, therefore of grasping them in their diversity: slow or fast, syncopated or continuous, interfering or distinct. Putting an interview or background noises on disc or cassette enables us to *reflect* on rhythms, which no longer vanish whenever they appear. Whence the possibility of concepts, therefore of thought.<sup>123</sup>

Recording gives the rhythmanalyst and soundscape researcher an exact blueprint with which to further understand the rhythms that make up our sonic environment, where they come from, and what they mean. Westerkamp, in contrast to Schafer, uses recording technology to analyze and understand soundscapes. By recording, and closely listening to

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<sup>122</sup> Hildegard Westerkamp, “Soundwalking,” 50.

<sup>123</sup> Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life* 69.

the various parts of the soundscapes, Westerkamp is using an approach that is similar to 55  
rhythmanalysis in that she considers soundscapes in terms of their individual components  
as well as the overall soundscape.

The tools and techniques outlined by Lefebvre and Westerkamp together provide  
a thorough methodology for understanding the soundscapes that we all have to contend  
with in everyday life. John Drever comments on the value both analyzing the rhythms of  
everyday and soundwalks in his piece “Soundwalking: Aural Excursions into the  
Everyday”:

The salient concern in soundwalking is everyday life. Bringing into play the  
everyday suggests a shared tacit knowledge, whilst validating individual’s  
behaviour, perception and interpretation. It accesses notions of reality that are  
mundane and whose processes are transparent, whilst unwittingly engendering the  
particular, and due to its very everydayness, habituation renders them invisible,  
silent and unspoken.<sup>124</sup>

Drever’s inclinations here merge the tone of rhythmanalysis with the aim of soundwalks  
positing that the goal of the subject in both practices is an embodied understanding of the  
sounds and rhythms of everydayness. Rhythmanalysis complements soundwalking  
efficiently considering that both call for a leap forward in embodied research and many of  
their philosophies and methodologies overlap in theory and in practice. Today’s  
researchers must acknowledge the fact that they themselves are agents in their research or  
they risk addressing everything as an object of their gaze, not of themselves or their  
surroundings, but of “other”. This type of “laboratory” thinking which dominated many  
scientific procedures in the nineteenth century will greatly hinder the contemporary  
researcher when undertaking both rhythmanalysis and soundwalks. Clair Revol agrees,

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<sup>124</sup> John Levack Drever, “Soundwalking: Aural Excursions into the Everyday,” 166.

remarking that getting out of the library is perhaps the best tactic for understanding

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rhythmanalysis:

If we follow Lefebvre well, we must go outside and feel the rhythms in order to think or analyze them adequately instead of remaining in the library and commenting on the experience of others. Lefebvre applied this principle his whole life. There have been numerous comments on Lefebvre's being an outdoor philosopher, living fully his life, his intellectual work being fed by it.<sup>125</sup>

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<sup>125</sup> Claire Revol, "Rue Rambuteau Today: Rhythmanalysis in Practice," 5.

In my introduction I wrote that Lefebvre scholar Stuart Elden made specific reference to Lefebvre's underappreciated status within academic disciplines such as art and more specifically, musicology.<sup>126</sup> The aim of this thesis was to combine the methodologies of rhythmanalysis and soundscape study, as propagated by R. Murray Schafer and Hildegard Westerkamp, and illuminate the overlap between these disciplines while expanding the breadth of both. Lefebvre scholarship is still growing in English speaking circles as many of his works, such as *Rhythmanalysis*, have only been recently translated from French (2004).

I have attempted to highlight specific points that amalgamate rhythmanalysis with certain aspects of soundscape study. These points represent tools taken from rhythmanalysis into soundscape study, although of course rhythmanalysis can also glean many techniques and theories from soundscape study. First, both soundscape study and rhythmanalysis rely on a hands-on, embodied style of research. Grasping the rhythms and sounds of contemporary society and construing meaning from these sounds and rhythms requires the researcher to leave the library or sound studio and experience them first hand. The researcher must embrace the everyday with awareness and curious vigor. This type of field research provides concrete evidence to point the researcher towards the political, social, economic and cultural sources, meanings, and motivations responsible for the sounds and rhythms of everyday life. Examination of the rhythms and the

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<sup>126</sup> In the introduction to *Rhythmanalysis* Stuart Elden notes that Lefebvre's "work on temporality and more generally on music have had little attention paid to them. This is the case even in books on Lefebvre." Henri Lefebvre, *Rhythmanalysis: Space, Time and Everyday Life* (London: Continuum, 2004): xiv.

soundscapes of the everyday can provide tools beyond the usual economic statistics in evaluating society.

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Consequently, with rhythmanalysis Lefebvre supplies an approach to listening to rhythms that involves dialectically thinking through soundscape in a polyrhythmic fashion. As the first part of the equation, the researcher must be aware of their own body and the subjective nature of their role in their investigations, while also attempting to be as objective as possible. Lefebvre offers an array of methodological utilized concepts and oppositions for thinking through sounds, rhythms and their sources: repetition and difference; mechanical and organic; discovery and creation; cyclical and linear; continuous and discontinuous; quantitative and qualitative to round out the triadic nature the rhythmanalytical dialectic. Of these, cyclical and linear categorizations prove most effective in offering insight into the social, political, and economic circumstances that form the sounds and rhythms of everyday life. I believe Lefebvre's insistence that linear rhythms have encroached too far into the cyclical patterns that lie at the heart of human existence is a valid concern. Evidence cited in this thesis from the writings and practices of Schafer and Westerkamp endorse this notion. If we are not longing for a return to nature, we seem to be at least starting to consider the ill effects of linear production strategies and the effects of mechanization, industry and the continuous workday on our soundscapes.

Beyond that, Lefebvre's theories revolving around the classification of rhythmic relationships: eurhythmic, arrhythmic, or isorhythmic, provides a solid point of departure for understanding the complex rhythmic counterpoint of the everyday soundscape.

*Tuning of the World*, and Westerkamp in *Soundwalking*, reminds us that both rhythmanalysis and soundscape study are as much an art as they are a science. The use of language and aesthetics in both disciplines is a key component, and empirical evidence, while valuable, falls short without sophisticated imagery and prose in assessing and analyzing soundscapes. Lefebvre's texts are particularly poetic and must be approached with an eye, and ear, for interpretation.

To bring this thesis full circle, I point to the scene in my introduction where I dissect a soundscape in Assiniboine Park and designate it a "three-dimensional symphony". How can I interpret those sounds now using tools from rhythmanalysis? First, I will attempt to categorize the sounds. The squirrel rhythm is cyclical, organic, and discontinuous. The squirrel at some point will eventually move on, sleep, become quiet, or simply die. As far as the sound itself is concerned, it is interesting to listen to because of the slight difference in each repetition of its chirp. The cyclical nature of the squirrel sound also reminds me, if not directly then at least in feeling, that each moment is individual, unique, and fleeting. Rhythmanalysing the sprinkler leads to many contrasting conclusions. The sprinkler rhythm would fall under the linear category, being mechanical and continuous. The sprinkler repeats the exact same rhythm in the same temporality over and over. The sprinkler will never die. It reminds me that every day the lawn could grow a little bit greener if the same mode of production, to use a socio-economic metaphor, continues in the exact same rhythm. Will the grass ever be green enough?



Rhythm-analysing the sprinkler and squirrel counterpoint from a polyrhythmic perspective seems to prompt soundscape study and rhythm-analysis to branch off into their own separate compartments. In a rhythm-analytical sense, an arrhythmia should be created by the squirrel's rhythms when posited against the sprinklers. The squirrel represents the wild natural freedom that ruled the earth before massive industrialization while the sprinkler represents man's manipulation of nature for the purpose of betterment and idealistic preservation. However, when listened to in the moment, in a purely sonic sense, the randomness of the squirrel's chirps against the metronomic pulse of the sprinkler's rotations produces a very pleasing aesthetic. Musically speaking, the steadiness and predictability of the sprinkler rhythm in counterpoint with the erratic, improvisational quality of the squirrel produces a captivating mix of the familiar, the repetitive, and the new and different. The same equation explains the beauty in listening to the river softly flow against the drone of a distant plane. It is in situations like this where soundscape study becomes a pleasure-laden activity, in the same way I suppose rhythm-analysis is quite meditational when practicing it from a Paris balcony on a breezy summer night. In my opinion the real work begins when we consider the most irritating sounds in society. As I write this, a worker operates a pressure washer just outside my window as he capitalizes on technological advancement to clean some chairs, better and faster. The effects of his actions on the surrounding soundscape seem to be the very least of his concerns. Would Luigi Russolo be so inclined to promote noise in his manifesto if he had to compose his music in the upstairs office of a machine shop?

Technology is here to stay, although at present we may be witnessing the end of the industrial, crude oil fueled era, and due to soaring populations we are going to have to

contend with our neighbour's sounds and noises for some time to come. The proliferation 61  
of both rhythmanalysis and soundscape study, as methodologies, into the cultural milieu  
of everyday life could raise the sonic awareness of not just mechanical workers, but  
architects, city planners, and educators as well, bringing the realm of sound, and therefore  
rhythm, more forthright in the consciousness of society.

Just as a mix of the mechanical and the organic creates compelling textures in  
everyday soundscape environments, blending, as well as creating, cyclical and linear  
textures in the electroacoustic studio can produce thought provoking musical works. As I  
mentioned in the introduction to this thesis, I contemplated creating a “fluctuating tempo  
grid by following the mechanical ostinato created by the sprinkler”, then possibly adding  
a high-hat or synthesizer to balance the organicism provided by the sounds of the  
squirrel, the moving river, and the people walking by. After my investigations of  
rhythmanalysis and soundscape studies throughout this thesis, I am even more convinced  
of the effectiveness of these types of compositional strategies. Extracting sounds from  
the everyday, and either highlighting them, disguising them, putting a microscope to  
them, or changing them entirely, causes the listener to hear the sounds of everyday life in  
a new way. Through the compositional process, composers and listeners alike can be  
instantly transformed into rhythmanalysts.

My own awareness of the soundscapes that surround me on an everyday basis has  
grown exponentially throughout this project. I have also grown to appreciate how the  
cyclical form of the natural world surrounding us is affected by soundscape. My hearing  
has become more attuned to my surroundings and my “ear lids” forever shed in favour of

a chance to really listen to the developing soundscape in all the environments I find myself within, for better or for worse.

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