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The Ethereal System: Ambience as a New Musical Identity

Daniel Siepmann
College of William and Mary

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The Ethereal System: Ambience as a New Musical Identity

A thesis submitted in partial fulfillment of the requirement
for the degree of Bachelors of Arts / Science in **Music** from
The College of William and Mary

by

Daniel Weller Siepmann

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Brian Hulse, Director

_____

Sophia Serghi

_____

Robert Leventhal

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I. Introduction

"*Rarely in the history of music has the musician found himself in a more radical position, faced with as unaccustomed a task as the creation of the very sound itself.***"**[1]

-Pierre Boulez

"It might as well be a hamburger."

-Brian Eno, referring to his Yamaha DX7 Synthesizer

A. Overview

Western Classical traditions, from the Baroque Era to the 20th Century, have been typified by a sort of intellectual rigor or exercise that the composer intends for the listener. Even if beauty or a sense of serenity remains the intended goal for the creator or the performer of the musical idea, there is a pervasive sense of progression or eventuality- a series of steps that the music and the listener must take in order to achieve the desired musical or emotional results. This concept appears latent in the musical material itself, and pervades the content on the level of either psychoacoustics or association. For each of these dimensions, the composer intends certain "difficulty" in the listening process. Work must be done by the listener to glean what is deemed musically valuable by the composer. This "difficulty" may be the case regardless of the skill or accessibility of the music, ranging from the most amateurish *kinderszenen* to a virtuostic masterpiece. We as listeners to both music and the sonorous world around us must question what it means when we attend to music and our aural environment in an inconsistent manner, or when sounds that should be consistently perceptible leave our attention. For whatever reason, the noises and tones surrounding our perceptions fade into the background, looming in and out of focus as our mind wanders. This may occur for any number of reasons, and in nearly every environment that we choose to tread, from department stores and malls to the most legendary and virtuostic of concerts.

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1 Boulez, Pierre. "At the Ends of a Fruitful Land..." 1957

One of the primary assumptions of modern music theory and philosophy is that when listeners experience music, biologically, psycho-acoustically, or aesthetically, they do so in a linear fashion. These theories dictate that our capacities for the uptake of the tonal information are fully extended from beginning to end. That is to say, the ability to absorb musical information has the same consistency and efficacy throughout a listening experience. In their examination of musical phenomena, from the discrete relationship between notes to the most subjective psychoacoustics, music philosophers like Eduard Hanslick and Jerrold Levinson (and even more "experimental" thinkers and composers such as Milton Babbitt or Steve Reich) stipulate an evenness of perception, or conversely, an evenness in the manner by which the mind wanders. The pace and the tempo of musical experiences, for them, must cling to the present and resist acceleration or deceleration. Or, if the rapidity of thought or musical understanding does gain or lose speed at a non-constant rate, these theorists attribute this to the weaving dexterity of the musical material itself. One focal point of this thesis is to expose and problematize this assumption of psychoacoustic constancy in our musical experiences, as well as provide some explanation and understanding as to how and why the unconscious phenomena of shifting levels of musical attentivity occurs.

Additionally, how does music theory use its tools to account for a sort of musical practice that remains extrinsic to the conventional construction and framework of academic or popular music? With a genre such as ambient music that capitalizes on the mind's tendency to shift its modes of attention throughout a listening experience, common practice tonal theory appears insufficient. How can tonal theory dissect and categorize a musical genre lacking tension, resolution, or a sense of progression? Ambient music, a musical schema designed to remain outside of our attentive or "foreground" listening experience, challenges many of these fundamental musical notions. First championed by

French impressionist composer Erik Satie (1866-1925) as "Furniture Music," this series of tonal

landscapes, mainly on piano, operated as a sort of coloration to a room. They provide a certain tinge to

an involved conversation, or a veil that inextricably descends on a setting.[2] It is passive, both in the

compositional technique and the encouraged listening setting. Yet the mind can build an intense

deliberation around this listening environment, and within an unexpected intentionality, this furniture

music blossoms with a new sonic and psychological world [CD TRACK 1]. John Cage (1912-1922)

describes the idealism and utility of such musical concepts:

> *"Furniture Music is fundamentally industrial... what we want to do is to establish a music made to satisfy human needs the way the utilities do. Art is extraneous to these needs. Furniture Music creates vibrations. That's its single purpose. It plays the same role played by light, heat, and all other household conveniences."[3]*

While Cage himself purports a holistic musical philosophy of a "sound for sound's sake," his

admiration for Satie's project[4] is summarized in his phrase "..making music in situations where music

has nothing to do."[5] How should one conceive of a piece of music whose *telos*, or purposeful end

point, is not obvious or nonexistent? Satie's musical mission, with the development of French

Impressionism, changed the Western musical world's sense of direction and tonality in music.

However, a different composer serves as the archetype of study in the current research at hand. He is a

visionary who nearly singlehandedly adapted the principles of "Furniture Music" into the new, more

"absolute" musical landscape of electroacoustics.[6]

This individual, Brian Eno (1948-), is popularly recognized as an electronic musician, music

theorist, record producer, and rock artist. However, he is most well known by his creation of

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2 Satie, Erik. Composition Notes. Nov. 1917.
3 Cage, John. "Furniture Music." *X: Writing '79-'82*. Wesleyan Publishing. November, 1983. pg. 65
4 Satie's project being divergent from Cage's own.
5 Cage, pg. 69
6 Bangs, Lester. "An Interview with Brian Eno." *Variety Magazine,* Dec. 1984

contemporary ambient music. Eno, a practitioner of formless, timbrical composition techniques similar to Cage's, first envisioned the ambient music experience, ironically enough, through an accident.[7] As stated on the liner notes to his ambient album *Discreet Music*, [CD TRACK 2]

"My friend Judy Nylon visited me [in the hospital after a car accident] and brought me a record of 18th century harp music. After she had gone, and with some considerable difficulty, I put on the record. Having laid [sic] down, I realized that the amplifier was set at an extremely low level, and that one channel of the stereo had failed completely. Since I hadn't the energy to get up and improve matters, the record played on almost inaudibly. This presented what was for me a new way of hearing music- as part of the ambience of the environment just as the colour of the light and the sound of the rain were part of that ambience."[8]

This experience reached a point where the tones ceased to resemble a moment-by-moment listening experience for Eno. Instead, a near-physical shifting of his perceptions and emotional contents took place, with his moods and cognitions being guided by the list and sway of this new sound world. Upon recuperation and release from the hospital, he immediately began experimenting with the re-creation of this fascinating sonorous environment. For this purpose, Eno created a device he christened the "delay line system," an assemblage of tape recorders looped together, augmented by tone generators and various filters.[9] Already experienced as an electronic engineer from his career in the British rock band Roxy Music, Eno began releasing records of this new ambient material and occasionally collaborating with other musicians focused on process works, such as Robert Fripp[10] and Harold Budd. The landmark work of his career, the morbidly inspired *Music for Airports (1978),*[11] [CD TRACK 3] consists of piano and electronic tones filtered and looped, a piece designed to calm travelers in airport terminals. For the next three decades, Eno released albums of this new genre-sort with varying levels of critical acclaim and frequency, often times commissioned by various art institutes, commercial enterprises, and video game companies. One needs only to view the explosion

7 Eno, Brian. *A Year With Swollen Appendices: The Diary of Brian Eno*. Faber and Faber Publishing. July, 1996. pg. 2
8 Eno, Brian. *Discreet Music*. Astralwerks. pg. 3
9 Eno, *A Year With Swollen Appendices: The Diary of Brian Eno*. pg. 13
10 Most famously of the rock band King Crimson
11 Eno, Brian. *Music For Airports*. Astralwerks. Oct. 1978.

of the market for "new age" recordings of waterfalls or thunderstorms, listen to an early Aphex Twin

album [CD TRACK 4], or attend a modern electro-acoustic music concert to view the depth by which

Eno's works have permeated the popular and academic musical consciousness.[12]

One of the groundbreaking developments in the history of technologically mediated music is the

conception and construction of the delay line system. Although the delay line system has been realized

in a variety of fashions, from tape recorders to analog effect pedals to software algorithms, its purpose

and utility remains the same. It consists of data or sound waveforms that are passed along a single loop

across multiple nodes that read and then record new altered data back onto the loop as it completes a

multitude of indefinite cycles or periods. These cycles are repetitions of sound that build and fade

based on the technical parameters of the nodes and nature of the cycle. This assemblage represents both

the foundation and culmination of an evolving technique to exude ambience and coloration, rather than

progressive melodies and harmonies, in music. Originally built by Eno as a collection of several tape

recorders looped together with a single sequential tape feed, the technological and artistic variations

that this sound duplication system underwent represents a great advancement in musical and technical

thought in the past five decades. These experimental directions continue to give rise to unique

processes and systems of music composition, as the utility of the delay line system has greatly

surpassed its initial usage as a strict "electronic" instrument. It blurs the line between the electronic and

acoustic, the performer and the composer, and the engineer and the producer.

B. Critical Questions

With this backdrop in mind, I intend to explore Eno and others' use of the delay line technique

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12 Bangs, pg. 13

with the following questions: First, what is it about delay line processes that produce ranges of emotions such as calm, longing, and thoughtfulness? Listeners generally associate the emotions of a musical work with the intentionality of the motives and gestures provided by the composer. When the delay line system delivers these emotions absent such musical factors, one becomes compelled to question why deep seated emotional reactions still take place in the listener.

Second, what is it about pre-conceived delay line processes that attracts Brian Eno, other musicians, and listeners? The aesthetic experience of the "traditional" composer and the listener diverge as the composer toils through the parts of the piece, whereas the listener hears only the cohesive whole. The aesthetic experience of the delay line system composer, in the absence of any direct encounter with pre-conceived parts of the music,[13] likely evolves in a different manner. The composer, sharing the anticipation of the listener, compels an investigation into the origins of the fascination that both parties share when they experience pieces composed by delay line processes.

Third, when the composer assumes a passive role in the unfolding of a musical piece, how should one evaluate this revised role? Instead of the composer as an intentional actor, the delay line systems commits the composer to the role of a creative, yet distant, engineer. The work of composers like Brian Eno, individuals that only provide a guiding hand in the actual construction of a piece, fundamentally questions the popular and academic view of the composer as an agent directing musical traffic and controlling all of the minute parts of the musical whole.

Fourth, what should a listener's conception of a "musical work" be when music is being produced with the delay line system? A musical work such as Beethoven's 9th Symphony represents a

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13 As the delay line system lacks these partitions

traditional composition as it relies on the development of theme, tonal variations, and virtuostic

ornamentation to generate a sense of grandeur or beauty. As compositions that intrinsically lack these

commonly anticipated traits of development and variation, ambient and electroacoustic works

developed by the assembly of delay line processes and systems demand a re-examination of this notion

of a "musical work."

Finally, does the use the delay line system as a process of musical composition constitute

improvisation? The delay line system's repetitious nature allows for the composer to capitalize on

unanticipated musical moments, often interpreted as "mistakes" in a typical compositional framework.

Using audio manipulation devices in the sequence of the delay line system, the composer is able to

insert variables when these mistakes occur; often in the same manner as a jazz or blues musician that

relies on the unpredictability of a piece to make a new musical statement. If the dynamic between the

composer and the delay line system does amount to improvisation, what is the nature of this

improvisation?

There are several tentative conclusions to these questions that I will explicate throughout the

course of the paper. Foremost, the experience of ambient music has its roots in a blend of psychology,

neurology, and philosophy. I weave a number of clinical studies and the philosophies of Friedrich

Nietzsche and Gilles Deleuze together in order to explain not only what can happen in our brains when

we experience ambient music, but how the mind might be attracted to ambient music. The brain is

constantly engaged to the sound world that constantly surrounds it, and ambient music capitalizes on

this biological affinity through its use of repetition, ambiguous tonality, and directionless motion. I will

then explore the aesthetic of ambient music as a work of art in its implications for composers,

performers, and listeners. Using the writings and opines of music theorists such as Levinson, Quinn,

Kivy, and Hulse, composers such as Henry, Schaeffer, Mimaroglu, and Boulez, and Brian Eno's own

descriptions of his work, I hope to explore the structure and being of what makes ambient music

aesthetically important. In accomplishing this, areas such as ambient music's technological similarity

to other widely accepted musical genres, it's labeling as process music, the dynamics of the delay-line

assemblage, systems theory, and the relationship between the composer and the engineer will all be

explicated and examined. Subsequently, I will pursue ambient music's improvisatory qualities by

examining the writings and analysis of Steve Reich, the dynamics and design of the delay-line system's

operations, John Cage's imaginative statements and compositions, and the implications of chaos theory

within Gilles Deleuze and Felix Guattari's philosophies. I will demonstrate that ambient music is every

bit as dynamic as a live jazz performance, relying on radical mistakes and unanticipated alterations

instead of the traditional improvisation methods of forethought and split-second decision making.

The format will begin with an outline of the history, personalities, and culture of ambient music,

as well as a number of its preliminary implications. Subsequently, I will then address the core

questions outlined above in a series of three chapters that frame the larger dimensions of this inquiry.

Finally, I will conclude with an overview that addresses each subsection in a cohesive and coherent

explanation of ambient music's implications for composers, performers, and listeners.

II. What is Ambient Music?

"Ambience... carries certain... musical connotations- 'the tonality of motives, patterns, or accessories surrounding and enhancing the central motif or design...the word goes back to the Latin: ambiens *to the present participle of the verb* ambire*, to go around, from the prefix amb-, around, and the verb root ire, to go. The amb prefix is used in words like ambiguous, ambit, ambidextrous, and- a word Eno might particularly relish- ambitendency, 'the state of having along with a tendency a counter tendency.'"[14]*

-Eric Tamm

C. People and Culture

Ambient music is a genre of music that focuses on coloring the listener's sonic environment while largely disregarding other functional musical traits such as melodicism, harmonic progression, or rhythmic variation. While these qualities are certainly recognizable in the musical texture, they all are yoked to advancing this musical concept of an unobtrusive, background music- a music that isn't meant to be listened to directly. This definition of ambient music is problematic however, because the concept or idea of "ambience in music" escapes any normal genre boundaries. We as listeners are capable of finding ambience in nearly all music frequently and consistently, based on the level of attention or active listening with which we engage a musical piece. If we put on a record and then proceed to read or engage in any other distracting activity, this music may easily be described as ambient, filling the space with sound that we seem to appreciate and enjoy, yet to which we are not quite listening. Thus, the idea of ambient music relies not so much on the internal qualities of the music, but the utility that the music holds for the listener. In fact, the idea of ambient music is so expansive that it stretches the boundaries of what we may commonly call music. Sounds permeating through nature and the air frequently induce feelings of a surrounding aural environment or setting, a kaleidoscopic mixture of bird songs, insect calls, and the wind through the leaves and brush. Similarly, sitting in one's house in a quiet setting, sound continues to swirl around us, sounds that are rarely considered and usually in the background to conversation or human activity; the hum of the refrigerator, the rustle of the blinds,

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14 Tamm, Eric. *Brian Eno and the Vertical Color of Sound.* Da Capo Publishing. Updated Sub Edition. 1995.

chimes outside on the porch, a siren traveling from afar. When examining ambient music, an attempt should be made to identify intentional archetypes of the "concept of ambience" in music, or music that has, in one way or another, been designed with the purpose of creating a background setting, rather than a foreground engagement of our senses. Limiting the examination of "ambience in music" in this way allows for a precision in our understanding of ambient music so that we avoid talking about every piece of music in the world, or as will be explicated later, avoid talking about no music at all.

While Brian Eno was the first composer to formally coin the term in his composition and album *Discreet Music*, expositions of purely ambient ideas in music have existed for the better part of 20th Century Western musical history and far longer in some Eastern musical traditions. In the 20th Century Western canon, intentional or "primary" ambient music[15] begins with the compositions of Erik Satie, a French Impressionist composer. Satie developed the ideals of the musical Impressionism-- largely non-functional harmonies that sway as moment-to-moment glimpses of sound, one after the other-- into a chamber music practice that operated only as background embellishment to day-to-day activities. This *musique d'ameublement,* literally translated as "furnishing music," was designed to be played by live performers in largely casual or social settings, containing no purposeful musical ideas other than to serve as a facilitator of conversation, or to provide a "pretty" backdrop to the activities of the participants in the space.

Titles of the pieces include such phrases as *Tapisserie en fer forge, Carrelage Phonique,* and *Sons Industriels,* respectively translated as "Tapistry in forged iron," "Sonic Tiling," and "Industrial Sounds."[16] These are accompanied in scores and notes with instructions for their suggested utility; for instance, "for the arrival of grand guests, to be played in a vestibule," "can be played during a lunch or

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15 Ambient music that may be said to resemble the style or character of the practices later brought about by Eno.
16 Davis, Mary E. *Critical Lives: Erik Satie*. Reaction Books. June, 2007. pg. 57

a civil wedding," or "a drawing room."[17] Incidentally, the first performance of these works occurred in

1920 during the intermission of a play in France, as *entr'acte* music. Although Satie intended the

audience to walk around, talk, and mingle, they kept silently in their seats and listened intently, trained

by the habits of the common musical practices of Satie's era.[18] For a quarter of a century after the

composer's death, all of the *musique d'ameublement* pieces remained hidden from the general public,

apart from being mentioned in early Satie biographies. By the end of the 1960s, parts of the furniture

music started to appear as illustrations to press articles and new Satie biographies that were emerging.

The first full publication of Sets 1 and 3 occurred finally in the late 1970s, influencing numerous

American and European composers.[19]

A second, distinctive blossoming of the idea of "ambience in music" occurs in the work of the

American composer John Cage, whose focus on the indeterminate qualities of music changed the

listening public's ideas of what may or may not be described as musical. Influenced heavily by Indian

philosophy and Zen Buddhism, Cage embarked on remarkable musical experiments that resulted in his

practice of chance music, or music whose possibilities and compositional choices are chosen through a

selection of randomized processes. The first of these pieces, *I Ching* (1952) or "Book of Changes,"

[CD TRACK 5] was composed via a series of computer-generated "coin tosses" or randomized

selections, choices that eventually guided the performance of a piece of music that was, or so Cage

intended it, devoid of personality, intention, or expression.[20] This idea operates as a foil to many of

John Cage's contemporaries within the trends of American composition, most noticeably the twelve-

tone or serial music practices of Milton Babbitt (1916-). Whereas Cage developed processes of

17 Satie, Erik. Composition Notes. pg. 89
18 Satie, Erik. *A Mammal's Notebook: The Collected Writings of Erik Satie*. Serpent's Tail Publishing. November, 1997. pg.
78
19 Ibid, pg. 81
20 Cage, John. *Silence: Lectures and Writings*. Wesleyan Publishing. June, 1961. pg. 250

randomization that emphasized a dogma of indeterminism in every aspect of his music, Babbitt's precise control and assignment of tones to rows of mathematical patterns represents a total determinism in music.[21]

Arguably Cage's most famous piece was his work *4'33* (1952), a composition first performed by David Tudor on August 29th in New York City, New York. This piece consisted of only the environmental, or ambient sound of the audience itself, a collection of the nearly imperceptible vibrations in the room, coughs, shuffling, and other similar sounds. Cage's inspiration for this simple framework derives itself from his visit to Harvard's anechoic chamber, a room engineered so that no echoes or reverberations take place within. Despite the supposed absence of all sound, he heard one high humming and one low humming upon his entry. Inquiring about this, the engineer on staff informed him that the high sound was his nervous system operating, and the low sound was the circulation of his blood. For Cage, this reality was demonstrative of the idea that sound, and the musical content of sound, never leaves us.[22] *4'33* represents one of the first formalized works to challenge a listener's conceptions of where and how music may be experienced environmentally. Through *4'33*, not only are the dichotomies between audience and performer deconstructed, but the idea that sound and music constantly surrounds us becomes fundamental to the concept of how we listen to our world in both intentional and non-intentional settings. Principles such as these expand and rework the presence of "ambience in music" to an outlook of "ambience in the world," embracing the totality of sound that consistently surrounds us.

Eno began the progression of his musical career as a tape-loop operator for the British band *Roxy Music* during their live performances, and quickly moved onto creating solo rock music. Several

21 The music that results from these starkly divergent approaches are remarkably similar in their end character
22 Cage, pg. 133

solo albums of innovative, high energy, electronically inflected pop songs were released between 1972

and 1977, with titles such as *Before and After Science, Here Comes The Warm Jets,* and *Taking Tiger*

Mountain By Strategy.[23] In between these popular efforts, Eno borrowed tape delay techniques that he

had previous pioneered with Robert Fripp of the progressive rock band *King Crimson*[24] and assembled

compositional processes similar to those used previously by American minimalist composer Terry

Riley. The result was the first album intentionally described as "ambient music." Eno's *Discreet Music*

(1975) was modeled after his experiences in his hospital bed, enduring the wash of low level music

with the aural environment, wherein he slowly allowed his thoughts to drift with the sound.[25] Whereas

Satie intended his *musique d'ameublement* as a utility to aid conversation or provide the pleasant

finishing touches on a social setting, Eno's approach focuses on the more abstract drifting cognitions of

the mind. Eno's most famous ambient work, *Music for Airports*, embodies an advancement of the tape

manipulation and delay techniques begun in *Discreet Music*, and for many months afterwards was

played in New York's La Guardia airport. The shifting electronic timbres and intensities created

enough tonal ambiguity to maintain its fascinating qualities while simultaneously remaining in the

background of travelers' attention. Eno proceeded to release three more ambient albums in the same

sequential suite as *Music for Airports*,[26] as well as many others with similar content, nearly all relying

on the same delay line system techniques.[27]

Eno's work in this format, a radical departure from his previous rock and roll career and the

general direction of both popular and academic music, garnered criticisms and encores from a vast

array of musicologists and music critics, from Rolling Stones' infamous rock critic Lester Bangs, to

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23 Tamm, pg. 131
24 The technique was known at the time as a guitar effect called "Frippertronics"
25 Tamm, pg. 170
26 "Music for Airports" was considered to be "Ambient I," the first of a four part series of ambient music albums completed by Eno.
27 Tamm, pg 160

Hunter S. Thompson, to Frank Zappa and John Zorn. Musicologist Tom Hull's muses on the promise

that Eno's work holds for the future, praises Eno for advancing the Western musical genealogy.

"*His work is predicated not on the immediacy of the revolution... but rather... on the revolution's inevitability, the real presence of a new world. The drift of history is on his side, awaiting only that new Man to come to seize the possibilities knowledge and technology offer and wield them into a rational society. Eno, as a socially responsible artist, has two basic tasks: to engage our hearing in novel ways, and to provide objects for our new world. He does both, splendidly*"[28]

Opposite these glowing endorsements, Eno has received marked skepticism concerning his

ambient music, with most criticisms focusing on perceived boring, banal, or "kitsch" qualities.

Syndicated music critics Mark Peel and George Rush's respective analyses communicate the less-than-

stellar reaction that much of Eno's ambient music has received:

"*Brian Eno's 'ambient music' is certainly ambient ... but it's certainly not music ... I'll bet plants love it. As for me, I'm just going to let it lull me to sleep.*"[29]

"*[It] narrowly escapes schmaltz...*"[30]

Between those lauding Eno as a harbinger of the future and those castigating him for churning

out repackaged elevator music, there are a select few who desire to approach Eno's work on its own

terms- that is, in the realm of psychoacoustics. In casting a sympathetic light on Eno, music critic

Michael Davis' stream-of-consciousness review of one of Eno's later ambient albums, *Music for Films*

(1979) appears to be not only understanding of Eno's tendencies and project, but fully immersed in the

experience of the ambient music itself.

"*Begin with a dazzling quartz crystal. Fade up to soft focus on a warm bed being made warmer. Soft sighs heard from beneath the covers are transformed into the space meows somehow*

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28 Hull, Tom. "Eno Races Towards the New World." *Revolutionary Sound Magazine.* Spring, 1987. pg. 87
29 Peel, Mark. "Disc and Tape Reviews: *Ambient #4 - On Land," Stereo Review* vol. 47 Nov. 1982. pg. 105
30 Rush, George. "Brian Eno: Rock's Svengali." pg. 132

sensed through the windows of a 747. The plane glides to earth, eventually disappearing into the Bermuda Triangle, where you are seductively attacked by the stewardess in Jamaican chainsaw rhythm. She is easily eluded, however, and you swim to the surface just in time to see your purple-haired secretary teaching the switchboard nursery rhymes. The typewriter on her desk retorts with a funky clarinet imitation. You walk out the door and are immediately sizzled by a sun shower. When your eyes can focus again, you're back at home, staring at your smiling turntable as the needle returns to play the side over again, refusing to reject the record... If you want logic, go carouse with Kraftwerk."[31]

Davis' commentary describes the shifting frames of reference, the "zoning in and out," and more particularly, the memories and impressions that our psyche projects in and around ambient music. Ambient textures allow these sensations to rise to the forefront of our consciousness and meld together. Perhaps, if ambient music were to said to contain a progression or a trajectory, then listeners may only understand it as a type of radical empiricism. Listeners must grasp ambient music through the sensations of drift rather than the melodic sequences, tonal structure, or rhythm.[32]

Since Eno's resurrection and popularization of ambient music as a practice, idea, and marketing tool, it has developed it's own distinct location in the contemporary music of the past twenty years. Beyond the marketing-driven and consumer oriented *Muzak* that one hears in department stores across America, ambient music has spread into a variety of creative and innovative directions. Extremely successful solo artists and groups such as Aphex Twin, Radiohead, and Boards of Canada [CD TRACK 6 AND 7] use the delay line system formalized by Brian Eno (or digital adaptations thereof) to create ambient washes of sounds on their recordings and concerts.[33] Numerous contemporary composers such as John Luther Adams have adapted the "ambient style" to symphonic and chamber acoustic works, with landmark pieces like *Dark Wind* (2001) for bass clarinet, vibraphone, marimba, and piano [CD TRACK 8]. Nature consortiums frequently market field recordings of thunderstorms, waterfalls, wind,

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31 Davis, Michael. "Records: *Music for Films," Creem* 10. Apr. 1979. pg. 61
32 Zak, Albin. *The Poetics of Rock: Cutting Tracks, Making Records*. 1st Ed. Vol. 1. San Diego: University of California, 2001. pg. 211-212
33 Tamm, pg. 30

rain, and other ecology-focused backdrops as ambient listening pieces for consumers to soothe or calm their dispositions. It has certainly become difficult to identify genres of contemporary music that are wholly resistant to the influences of formalized ambient music in the past twenty to thirty years.

Outside of the Western tradition, the creation of sound landscape and the immersive aural tableau has been prevalent in many cultures for hundreds of years. Indian classical music, from both the Northern and Southern regions, uses the idea of ambience as a dominant musical dimension via the complex timbres and dense resonances of both the melodic instruments, such as the *veena*, violin*, sitar*, as well as the rhythmic instruments such as the *tabla*, *mridagnam*, and smaller bells. Sufi Muslim spiritual music,[34] performed by visionary musicians such as Hazrat Inayat Khan, involves a highly emotional, sometimes frenetic sound world of chanting, singing, and dancing- an aural and physical combination that generates an atmosphere of ecstasy and improvisation that goes beyond rational and structured musical gestures. Mbira musicians from the Shona peoples[35] of present-day Zimbabwe, as well as many other African music cultures, attempt to create the largest, or densest possible sound world. Even with the interlocking melodic forms of the "regular" plucked Mbira instrumentation, the Shona attach dried gourds, bottle caps, and other bits of metal to the resonant portions of the instrument, achieving the greatest possible timbral complexity and vibration. Each of these musical cultures incorporate the presence of a drone, or multiple drone notes, that persist throughout the pieces and create an underlying ambient current from which the other musicians orient themselves. All of these music cultures rely heavily on the creation of underlying, continuous sonic worlds from which to base improvisation or create environments for mysticism or otherworldly sensations.[36]

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34 Khan, Hazrat Inayat. *The Mysticism of Sound and Music*. Shambhala Publishing. September 1996. pg. 29
35 Kaminsky, David. In-Class Lecture. 10/21/2008
36 Scherzinger, Martin. Lecture. July 2008

D. Mechanics and Design

The original setup for the production of ambient music is the delay-line system; an assemblage of tape recorders, filters, and tone generators that are arranged in a variety of orderings and pairings, each rendering slight variations in the tempo, texture, timbral shifts, and harmonic variability. From a tone generator such as a synthesizer that plays a complex sound, to an oscillator producing a single pure sine wave, nearly all of the original inputs into this assemblage emerge as largely unrecognizable compared to their original derivation.[37] The sound from the original input device passes through a variety of filtration units, generally either a graphic equalizer that modulates the amplitude [38] of certain band frequencies in the tone, or an echo or reverb unit that widens the psychoacoustic space of the sound and increases the depth of the space we appear to hear it in. Finally, the modified signal(s) reach a multitude of tape recorders and as the signal passes over the tape heads, often looping several times, the instances of sound repeat with diminishing volume levels.[39] Thus, Eno and others are able to generate sounds that appear to emerge from nothingness, slowly twist and bend in their resonance, and decay into oblivion.

From this schema, the ambient composer is able to act as a guiding hand for the system or process that has been erected. As the piece unfolds, the composer adjusts the variables under his control, either the filtration units or the particular tone of the generator unit. He or she acts as a guardian or a monitor to the system, maintaining the consistency and microscopic growth of the aural environment emerging from this system by inserting these slight deviations in the filtration units. Yet, by the time the sonic materials run the course down the delay line and the composer hears the output on the other end, the materials have interacted with the mediating elements (and necessarily other sound

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37 Stockhausen, Karlheinz. "The Concept of Unity in Electronic Music." *Perspectives of New Music*, Fall 1962. pg. 88
38 The volume
39 Ussachevsky, Vladimir. "The Process of Experimental Music." *Journal of the Audio Engineering Society.* July 1958. pg. 12

materials) in such a way that a large number of completely unintended events or unanticipated modulations occur   It remains these unintended combinations, events, and permutations- "mistakes" in the compositional process, that guides the development of ambient music.[40] Were ambient music to be based around a compositional principle, method, or ruling mantra, this would be it. In this respect, the system is open, unhinged, and as these mistakes and remarkable combinations occur, the composer is able to experience the same wonderment and curiosity as the listener. Not even the composer is able to wrest control of the direction of the system when the overlapping variables build rapidly in the delay-line process.[41]

Despite all of these variables with which the ambient composer must contend, a well-designed system, with enough subtlety and distance between events, still retains the creative ideals and sonic world the composer originally intends. One primary reason for this is the remarkably simple palette of tonal material that an ambient composer like Brian Eno tends to begin with. Often, he starts with a four or five note modal structure on a synthesizer, but even one or two notes, heavily modulated, are sometimes sufficient. From Eno's *Music for Airports* album, the composition "2/1" has often been characterized as the most "efficient" or well-conceived of all of his ambient pieces for these very reasons [CD TRACK 9].[42] Consisting of a mixture of pianistic tones and sung notes, nearly all have been electronically treated to give them a soft attack, lingering delay envelope, and a slight hiss that accompanies every tone. The pitch material is very limited- seven tones that are diatonically spelled together in a Db major seventh chord with an added ninth. At face value, combinations such as these appear to be no challenge to the tools and principles of common practice music theory. There are, however, numerous elements of tonal ambiguity that act to deceive the ear and our sense of tonicism or recapitulation throughout the music. The summarizing chord of Eno's pitch material is not in root

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40 Eno, pg. 13
41 Latour, Bruno. *Reassembling the Social: A Guide to Actor-Network Theory.* Cambridge Press, 2003. pg. 211
42 Tamm, pg. 147

position, and the theoretical root, Db, the one note able to create a sense of high-level dissonance in the whole set (forming a minor second with the neighboring C tone) is heard the least frequently and with the highest cycling time. Thus, although Db is the "correct" root of the diatonically spelled chord, it's rarity and the subsequent frequency of the tone Ab in the cycles means that Eno has delivered a large amount of modal ambiguity. The listener senses a tone, key, or governing harmonic structure, but without an analysis, no straightforward tonicism can be heard by the ear. This illuminates ambient music's tendency towards constant shifting and a lack of harmonic or psychoacoustic resolution.[43]

It is clear that a large amount of musical determinism may be discovered within many of Eno's ambient works. Even pieces like *Music for Airport's "2/1,"* however, may be said to be operating as an unhinged or open system, as even the narrow modal elements reify themselves and combine in ways that eventually overcome the composer's capabilities of anticipation and forethought. The concept and preservation of singular pitches however, is one of Eno's last concerns as a composer. Within the schema of ambient music, discrete tonalities often only operate as a foil or element of psychological distraction to the aural materials that truly fascinate Eno and other ambient composers- those shifting timbral intensities and colors. This practice of shifting timbral textures may be translated into two underlying principles that Eno tends to return to in his compositions; that of layering and that of timbral heterogeneity.[44] Each piece tends to use a different combination of tone colors or sound types, striving for a unique timbral identity. The types of sounds themselves can perhaps he visualized as falling along a continuum between pure sine tones and pure white noise. But describing this distinction in terms of such visualization may be deceptive in the sense that many of Eno's tones and noises move and change; they are not static shades of color like a painter's palette, but have an inner life of their own. Taking a single note, Eno will run it through his treatments, adding or subtracting harmonics,

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43 Ibid, pg. 240
44 Ibid, pg. 146

enhancing its spatiality, altering its attack/decay envelope, adding subtle or wide vibrato, and subjecting it to amplitude modulation. When Eno is finished, the "single note" may be a complex and active entity.[45]

The impression of awe that ambient music tends to create may in many ways be attributed to this formulation of Eno's method. Not only does a single note gain the status of this vibrant and living entity, but then the mass of these notes are stacked, blended, and shifted in a way that the microcosm and macrocosm of Eno's ambient music become indistinguishable. Listeners hear undulating and evolving entities no matter where the ear directs its focus, and the referential space itself, enormous and often times unusual, disorients and distracts focus in a way that precise attention on any one variable becomes difficult. Ambient music is music that surrounds the listener with a sense of spaciousness and depth, encompassing one on all sides instead of coming at the listener. It blends the sounds of the environment, and invites one to listen musically to the environment itself. While Eno's ambient music refuses a divorce from individual taste, memory, and psychology (as is Cage's ideal), it nevertheless lacks "the pathos of self importance and confessional displays of open psychic wounds..."[46] Certain traits characterize most of the pieces that Eno composed in the ambient style: quietness, gentleness, an emphasis on the vertical color of sound, the establishment and maintenance of a single, pervasive atmosphere, the use of non-developmental forms, regularly or irregularly repeating events or cycles of events, the utilization of modal pitch-sets, the choice of a few limited parameters for each piece, selecting layered textures that tend towards an even balance of tone and noise, and a pulse that is sometimes uneven, sometimes "breathing," and sometimes non-existent.[47]

There are five distinct practices that distinguish Eno's work. First, the atmosphere of each piece

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45 Ibid, pg. 148
46 Ibid, pg. 130
47 Ibid, pg. 131-132

tends to be quietly yet decisively colored by a particular kind of drone or soft background noise layer. The drone is likely to be in the low register, thought tenor and alto range drones are also possible. It is usually on the tonic note, although frequently enough it occurs on the fifth above the tonic, creating a continuous tension, a "six-four" type of harmonic inversion effect. Second, aside from the drone or noise layer which gives a pervading tint to the overall atmosphere, the density of audible events tends to be minimal, further enhancing the impression of black, or empty space around individual sounds. Third, Eno's use of echo effects tends to be pronounced. He has taken full advantage of the development of the delay-line system and subsequent digital delay adaptations, allowing for independent adjustment of the delay time, the delay depth, and the repeat level. These realms, particularly when used in conjunction with sounds or pitches that have long attack and delay characteristics, can result in the creation of vast fictitious acoustical spaces. Fourth, Eno has planted a vast variety of "quirky" or unidentifiable sounds in his compositions. Eno tends to include so many that the attentive listener often finds him or herself not quite sure whether a noise came from out of the stereo speakers, from somewhere else in the house, from outside the windows, etc. The final trait of his style is the very low degree of "liveness" of sound. There is very little sense that what is heard on these albums is a performance that has been captured through sound recording. Rather, Eno presents the ear with an "entirely fictitious aural tableau" for the mind to adventure within.[48]

E. The Experience of Ambient Music

Understanding a piece of music as a primarily ambient work requires a certain willingness on the part of both the composer and the listener. The composer must desire a sort of "null space," or undifferentiated openness in the tonal schema and development of the music that allows for the mind to wander. The listener must allow him or herself to drift, and must possess the patience required for the

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48 Ibid, pg. 250-254

imperceptible shifts in the ambient music to take hold. This is one of the many examples by which ambient music is the practice of both total intentionality and complete detachment from intention simultaneously. As the ambient affects are anticipated, the manner in which the textures take hold, different and spellbinding each time, lulls the cognitive excitations and anticipation away.

Arguably, ambient music begins before the first waveforms are imprinted on the magnetic tape, or before the first synthesizer key is pressed. An ambient work is birthed in the multiplicities of aural combinations that blend the internal and external sonorous spaces in the composers mind.[49] Rather than distinguish the background to the foreground, or the substratum to the substrate, ambient music assimilates the contents of the whole field of sound, sending creeping tendrils of sonic information throughout the sphere of aural perceptions. Subsequently, the distinction between the contents of the mind and the contents of the music have shifted positions and treatments so much so that the differences between the two become nearly indistinguishable. Ambient music, or the qualities of ambience in all musics, smooth away the rigidities in our perceptive faculties and introduce the world to us as shifting intensities of sound, light, and texture, not merely concrete or discrete objects detached from the self.[50]

Ambient music blurring the distinction between the location of the sound from the playback system and the external environment represents a final key feature that distinguishes ambient music from other genres. Whether the experience comes from a speaker on the floor or the birds on the trees, the collection of disparate resonances meld into the same tableau of sensation and cognition.   When ambient music projects a mental space beyond the literal boundaries of the piece itself, aural illusions encompass the whole spectrum of perception. This holds a two-fold implication for listeners. First,

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49 Bell. Jeffery, A. *Philosophy at the Edge of Chaos: Gilles Deleuze and the Philosophy of Difference.* University of Toronto Press, 2006. Bell's explication of systems and chaos theory later aids in explaining ambient music's nature.
50 Kelso, J.A. Scott. *Dynamic Patterns: The Self Organization of Brain and Behavior.* MIT Press, pg. 267

how should one go about interrogating musical properties along with their acoustic environments, and

second, how should one separate the formal musical properties from the acoustic environments within?

III. Ambience as Sensation

"Hearing sounds which are just sounds immediately sets the theorizing mind to theorizing, and the emotions of human beings are continually aroused by encounters with nature. Does not a mountain unintentionally evoke in us a sense of wonder? These responses to nature are mine and will not necessarily correspond with another's. Emotion takes place in the person who has it. And sounds, when allowed to be themselves, do not require that those who hear them do so unfeelingly. [51]

-John Cage

F. The Gradual Process

In order to generate a cohesive picture of the mechanisms involved in experiencing ambient music, for both the composer and the listener, I will draw from a variety of sources: from biology to neuroscience, to systems theory and agent-network theory, to aesthetics and psychoacoustics. The mystery of ambient music is attributable to the unsatisfactory explanations that music theory and philosophy attempt to provide for it. There is a notable absence of a coherent and cohesive method for evaluating music that is simply not meant to be listened to in a traditional manner. Music theory's tools of structure, form, and content, and philosophy's preoccupation with metaphysics, are ineffective in their existing lexicons towards exploring the questions that ambient music set out.

Ambient music seems to be lush with emotionality while lacking much content.[52] The sheer simplicity of ambient music, devoid of a sense of progression or melodicism, seems incapable of explaining the emotional tug or experiential panoply that it creates for the listener. While this sentiment is essentially hyperbole, it appears to summarize many of the perplexing contradictions that ambient music displays. Eno's delay line process produces ranges of emotions such as calm, longing, thoughtfulness, and even meditative serenity. In the absence of intentional cues such as embodied gestures, directed progressions, and increasing tension, the question arises why deep seated emotional reactions still take place in the listener. If the emotionality of the music becomes governed more by the

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51 John Cage, *"Silence,"* Experimental Music (pg. 11-12)
52 From a lecture by Eastman musicologist Martin Scherzinger on July 22nd, 2008

facilities and variables of the delay line system than compositional intentionality, what is it about pre-conceived delay line processes that succeeds in producing these affects?

The situation of the composer sharing the anticipation of the listener compels an investigation into the origins of the fascination that both parties share when experiencing delay line pieces. Steve Reich (1936-) discusses his expectations and interpretations on this subject in his famous essay "Music as a Gradual Process."

"Listening to an extremely gradual musical process opens my ears to it, but it always extends farther than I can hear, and that makes it interesting to listen to the musical process again. That area of every gradual (completely controlled) musical process, where one hears the details of the sound moving out away from intentions, occurring for their own acoustic reasons... I begin to perceive these minute details when I can sustain close attention and a gradual process invites my sustained attention. By 'gradual' I mean extremely gradual; a process happening so slowly and gradually that listening to it resembles watching a minute hand on a watch--you can perceive it moving after you stay with it a little while."[53]

One fundamental schism pushes Reich's minimalism and ambient musics apart from one another. While minimalism encourages the listener to intensify their cognitive focus on the musical structures, harmonies, and unanticipated provocative combinations, ambient music requests a detachment, a nearly complete divorce of the "music *qua* music" from the experiential and emotive wash that it is capable of spreading across a space. The most distinct presentation of this chasm between minimalism and ambient music occurs when Steve Reich frames his music as "impersonal" and "unattended." This description could not be further from the case with ambient music. In the midst of the ambient experience, every space that appeared previously to be devoid of content suddenly saturates with emotion, memory, anticipation, and reflection as the mind wanders. These unexpected shifts in our frame of focus may range from conversation, to the wallpaper in the room, to a recent interpersonal conflict, and so on. In the case of the ambient music experience, the mind doesn't just

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53 Reich, Steve. "Music as a Gradual Process." *Writings on Music, 1965-2000.* Oxford University Press. Oxford, 2002.

begin to notice the shifting overtones and harmonics. Ambient listeners become caught up in the

shifting frames of reference that the mind begins to cycle through when unburdened by the nagging of

a melodic sweep, or formal gestures entering and exiting from the mix of the music. Ambient music

relies on, in the words of Brian Eno, the "angels in the architecture-"[54] the ethereal properties in the

music that are blended into the larger superstructure of the harmonics and resonance.

G. Psycho-Neurological Perspectives

The mediums of human biology and neuroscience are one point of reference when attempting to

the understand the pervasive wonder, awe, and mystery that ambient music is capable of producing in

human cognition and physiology. Many clinical studies in the field of neuroscience have resulted in a

body of research that suggests a human musical neurology from which a number of compelling

conclusions may be drawn. Neurology favors the idea that scientific and psychological

experimentation must build from low-level biological qualities when inferring to the higher level

functionalities that characterize our emotional and intellectual being. Studies of musical neurology

demonstrate several key points. Foremost, that there is a two-fold association between the categorical

semantic qualities and the emotive contents inherent to tonal music. The human brain innately

recognizes both of these qualities, akin to the manner in which the brain is attuned to linguistic usage.

The Miranda and Ullman study on musical/linguistic double dissociations demonstrates that human

neurology has developed sensitivities for the kinds of constructive semantics that form the building

blocks for both language and music, indicating a capacity for musical experiences that deliver the

emotional sensation of understanding on par with the written word.[55] Japanese researchers Mizuna and

Sugishita's "affect and tonality" study takes the next step by focusing on the emotive sway that music

generates in the brain by monitoring brainwave and chemical activities when subjects are exposed to

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54 Scherzinger Lecture, 07/22/2008
55 Robbin, Miranda A; Ullman, Michael T. "Double Dissociation Between Rules and Memory in Music: An Event-Related Potential Study." *NeuroImage*. 2007, Nov. 1. pp. 331-45

major and minor tonalities- each respectively associated with "happy" and "sad" emotional states. This demonstrates that in physiological terms, there are spikes of brain activity when a human subject is exposed to one of these unambiguously major or minor tonal passages. The human neurology is far more prepared to recognize the differences between major and minor than draw distinction between one tonally affective side and another section that is harmonically ambiguous[56] (if spikes of brain activity measured by CAT scans are reliable indicators of the subtle and complex realm of neuroanatomy).

Conjoining with tonality and affect, the dimensions of time and temporality are as important to an understanding of ambient music. All sonorous events have extension in time, some too brief to be perceptible and others too long to be fully grasped. For those events in-between, there is a fascinating element of flexibility in their psychoacoustic time structures. Temporal relationships modulate as events unfold. Rates change, rhythms vary, and structures transform. The Large-Jones clinical psychology study,[57] directed by psychologist Mari Reiss-Jones, provides a compelling hypothesis for this temporal-musical transformation by examining the way attention shifts during the experience of musical moments. The study implies that external rhythms drive attending or attention to ambient musical structures, permitting an enhanced, "selective attending" to music throughout time. The mind's capacities for attention may be "tuned" in and out, adapting over time to changes in event structure. Thus the temporal structure of musical events governs the mind's ability to attend. Furthermore, the Large-Jones study asserts that musical materials that constantly repeat cannot evoke a consistent mental clock or rhythm in the mind. Repetition of a given musical pattern provokes the mind's aptitude and attention not because it forms a particular isochronous or consistent structural pattern, but because each

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56 Mizuno, Tomoyiki; Sugihita, Morihiro. "Neural Correlates Underlying Perception of Tonality-Related Emotional Contents." *Neuroreport*. 2007. Oct. 29th
57 Large, Edward. Jones, Mari Riess. "The Dynamics of Attending: How People Track Time-Varying Events." *Psychology Review.* 1999. Vol. 106, No. 1, 119-159.

repetition strengthens the mind's prolictivity towards the outline of a single time interval. This indicates that multiple temporal shifts of each repetition, one on top of another, are musically significant to the mind (regardless of the complexity of the music inside of each phasing repetition.)

Sustained oscillation, or periodic repetition, is an "engine" for generating musical expectancies in the mind. What separates ambient music in its temporal-attentive schema from most other music is its lack of a goal-oriented expectancy. The only expectancy is that of a timbral or spacious nature- the color of the phase itself- rather than melody or harmony. The Large-Jones study posits that an attractor such as this controls expectancies, coordinating them every step of attending process.[58] The attractor state establishes a long-term control over attending tendencies, reflecting a state of minimum disparity between the period and phase of mental fixation and those of the unfolding musical event. However, in spite of the persistent pull of an attractor on cognitions, the momentary impact of an unexpected onset within an external rhythm can perturb the attending mental expectancies, forcing a totally different cognitive direction. Long term stability, however, ensures that an adaptive oscillation returns to its original state.

This framework suggests that attending has an intense participatory quality. As the Large-Jones study states, "the time pattern of an event reliably shapes a rhythm in the [ambient] flow, and the coordination of attention with the pulsating flow patterns connects the attender to the originating event in a rather direct fashion."[59] These patterns provide numerous opportunities for attentive engagement because they project flexibly evolving periodicities, each comprising of distinct onsets that the mind engages. A fascinating conclusion of the Large-Jones study is the notion that "the presence of many different periodicities within structured rhythms provides a means of tethering an attender to a distal

58 Ibid, pg. 147
59 Ibid, pg. 153

event."[60] The nature of ambient music itself compels the mind to search outside the musical material and shifting perceptive states for content and meaning- the mind drifts away from the musicality of ambience. By virtue of the dynamic mimicry that this invokes, the attender "participates" in the rhythm of this remote, non-musical cognitive event.

H. Philosophical Perspectives

Many philosophers, and especially philosophers of music, might argue that musical experience is derived not from the emotive contents in human neurology, but from the beautiful nature of the tonal forms themselves. Philosophers like Eduard Hanslick (1825-1904) describe music as inspiring beauty in the same way that a kaleidoscope inspires beauty. Namely, that the form of the kaleidoscope (analogous to the musical piece itself), is the beautiful item that the mind is neurologically attracted towards.[61] This notion neglects the attentive tendencies of the human mind, as demonstrated empirically by studies in musical neurology. Responding to Hanslick, music philosopher Robert Yanal notes that "the mind gives shape to itself by grasping the expressive quality of the music"[62] Even the staunchest opponents of this neuro-affective understanding of music have great difficulty insisting that it is only the "symmetry" or inter-relational quirks of music that individuals find inspiring.   The neuro-affective position-- the system of musical neurology that springs from this biological foundation-- undercuts the idea that music's power remains in the realms of tonal form and melodic structures.

Friedrich Nietzsche (1844-1900), an influential nineteenth-century German philosopher, said much on the link between semiotics in a musically ambient space and cognitive predispositions. Although it is unfortunate that Nietzsche had no access to the neuroscience of the twenty-first century,

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60 Large-Jones, pg. 153
61 Hanslick, Eduard. "On the Musically Beautiful." Hackett Publishing Company. June, 1996
62 Yanal, Robert J. "Hanslick's Third Thesis." *British Journal of Aesthetics*, Vol. 46, No. 3, July 2006.

many of his analyses on emotion and musical experience were accurate, not only in predicting

linguistic connections to music in the human brain, but also his rejection of the supernaturalism that

surrounded musical creation and appreciation in his era.[63] Nietzsche scholar Kathleen Higgins fleshes

out his robust account of linguistics, music, and the neural connections that the two share.

"...[He] *argues that language has two aspects: the speaker's tone and the speaker's gesture-symbolism.[64] The speaker's tone symbolizes 'degrees of pleasure and displeasure' which in turn are 'expressions of one primal cause unfathomable to us.' ....[He] concludes that because pleasure and pain are expressions of the universal ground of the world, 'the tonal subsoil' is universal, 'comprehensible beyond the differences of language.'"*[65]

Clearly, Higgins' emphasis on this "tonal subsoil" indicates the revealing nature of these

emotive pitch contents. Nietzsche correctly assumes that humans are, with both spoken tones and more

complex pitch-situated music, biologically predispositioned to respond. By "tonal subsoil," Nietzsche

means the collective mass of aural contents that continuously surround the human ear, from the buzzing

of blood circulating, to complex arrangements of speech, to the deliberate organization of musical

sound. Nietzsche understands equally well that with this innate biological link between the structure

and affect of language and music comes an even deeper understanding of our nature as agents in the

world.[66] This link alludes to a deeply rooted social affirmation that the universality of the tonal subsoil

provides the listener, a fundamental connection that virtually all humans share.[67]

Neurologically predispositioned musical experiences must have some greater role to play than a

mere "linguistics of sound" or an organization of noise that delivers a series of statements and abruptly

concludes. Neurologists, sociologists, and anthropologists have all concluded that human beings rely

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63 Most notably Hanslick's ideas on certain internal, irreducible beautiful elements in music.
64 Notice the association to the semiotic/affecive neurological position on music.
65 Higgins, pg. 667
66 Hermann, Rolf-Dieter. "Art, Technology, and Nietzsche." *The Journal of Aesthetics and Art Criticism*, Vol. 32, No. 1. Autumn, 1973, pp. 95-102.
67 Nietzsche, Friedrich. "On Music and Words." *Lectures on Rhetoric*. 1971. pg. 24

on and crave social interaction, an evolutionary byproduct of group hunting and defense practices from

chimpanzees and other ancestors of *Homo sapiens*. In order to facilitate these social interactions,

various dynamic languages developed to communicate desires and responses, linking the survival of

these proto-human ancestors to their adeptness at linguistic communication.[68] If the biological

requirement for sociability drives the creation and neural usefulness of language, wouldn't it make

sense for music to occupy a similar sphere? Since the same areas of the brain light up during both

music studies and language studies-- one indicating the semiotic element and another indicating an

emotive element-- then wouldn't a neurological understanding of music involve a variety of vital social

emotions as well?

Perhaps this is why ambient music may be so compelling to the listener. On a superficial level,

music resembles the emotive contents of a pleasurable social interaction in the human brain. In lower-

level neural functions however, musical experience is not tantamount to a simple pleasant chat about

the weather. It may be, in essence, an affirmation of the basest sense of human survivability.[69] As this

neurological "social muscle" is flexed, the listener's sense of well-being increases as his or her network

of support is perceived to have increased, strengthened, and molded into something more robust by the

ambient tonal subsoil.[70] Perhaps what stirs the listener's emotions is a brief glimpse of this musical

sociability from which so much cognitive resilience is derived, both neurologically and behaviorally.

The more a listener exposes him or herself to pleasant musical materials, the more the listener bolsters

a readiness against episodes of distress.[71] When in the midst of a depressive episode, musical

experiences awaken the sensations of social nurturing and support, which in turn are recognized

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68 Cheney, Dorothy L. Seyfarth, Robert M. "Baboon Metaphysics." University of Chicago Press. September 2008. pg. 97
69 Hilliard, Russell E. "The Effects of Orff-based Music Therapy and Social Work Groups on Childhood Grief Symptoms and Behaviors." *Journal of Music Therapy*, 2007 Summer. pg. 16
70 Ibid, pg. 247
71 Ibid, pg. 143

biologically as symbols of survival. Ambient music acts as an evolutionary reinforcer that confirms

control and agency during anxious moments when listener requires affirmation the most.[72]

The idea of ambient music as a confirmation of human efficacy, or survival instinct, remains an

intriguing explanatory hypothesis for the phenomenological and emotional impact that the genre can

provoke in its listeners. An additional Nietzschean idea augments this proposed schema- his famous

narrative of the "Eternal Recurrence of the Same." As explicated in his seminal work *The Gay Science,*

Nietzsche describes the emotional burden that infinitely cyclical time would have on an individual,

forced to relive their life over and over.

> *"What, if some day or night a demon were to steal after you into your loneliest loneliness and say to you: 'This life as you now live it and have lived it, you will have to live once more and innumerable times more; and there will be nothing new in it, but every pain and every joy and every thought and sigh and everything unutterably small or great in your life will have to return to you, all in the same succession and sequence... The eternal hourglass of existence is turned upside down again and again, and you with it, speck of dust!' Would you not throw yourself down and gnash your teeth and curse the demon who spoke thus?... Or how well disposed would you have to become to yourself and to life to crave nothing more fervently than this ultimate eternal confirmation and seal?"[73]*

Featured prominently in this work and others such as *Ecco Homo* and *Thus Spoke Zarathustra,[74]*

the idea of circular time and the constant repetition of acts, experiences, and deeds presents a unique

opportunity for those ensnared in this proposed cycle's grasp.[75] In Nietzsche's formulation of this

dilemma, the demon's voice, or the realization of the eternal cycling of one's life, delivers a golden

opportunity to affirm and embrace the totality of one's existence and actions. One of the most

pleasurable forms of being and lifestyle in Nietzsche's conception of human nature is that of the *amor*

fati,[76] or "lover of fate." Loving one's own fate demands the actualization and embrace of this eternal

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72 Panksepp, Jaak. "The Emotional Source of 'Chills' Induced by Music." *Music Perception*. 1995, Spring. Pg. 8
73 Nietzsche, Friedrich. "The Gay Science." Vintage Publishers, New York, New York. 1ˢᵗ Edition, Jaunary 12, 1974. Sec. 78
74 Nietzsche, Friedrich. "Ecco Homo, "Why I Write Such Good Books", "Thus Spoke Zarathustra", §1
75 Hypothetically or not.
76 Dudley, Will. *Hegel, Nietzsche, and Philosophy: Thinking Freedom*. 2002, page 201.

recurrence of one's life and actions- an acknowledgment of the never ending loop of every mortal joy and misery. Nietzsche posits the Eternal Return as one of his key rhetorical devices, laying bare his idealization of repetition as it's own form of liberation. Repetition acts not as a device for comfort or complacency, but as a challenge being posed. The acceptance and affirmation of the continuous cycle of one's life represents a valuable form of self-actualization in Nietzsche's philosophic framework.

If sound holds a certain value for one's sense of actualization, affirmation, or efficacy, then the deep cyclical repetition of ambient music arguably embodies a unique perspective for the mind. Ambient music translates easily into the "tonal subsoil" that Nietzsche describes as always swirling around the ear. In this sense, ambience acts as the primary enabler for the affects and emotions that we tend to become flush with during the listening process. Ambient music may likely be the musical embodiment of the kind of affirmation that Nietzsche describes in the framework of the Eternal Return. Not only does the effectiveness or impact of ambient music on sensation increase when one accepts and embraces it's total omnipresence in a listening situation, but this sort of willing participation in the ambient music process often provides the mind with a sense of calm and mastery of its surroundings. While this experience presents itself as a sort of radical empiricism, the specific findings of clinical neurology, psychology, and philosophic rigor all tend to compliment this compelling portrait of how the mind seems poised to appreciate and become cognitively involved in ambient music. Through these means, listeners are capable of not only affirming a sense of self-efficacy but may also explain the sense of awe and drift that occurs in the ambient process.[77]

I. Deleuzian Repetition

Gilles Deleuze (1925-1995), a contemporary French philosopher, describes repetition as the

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[77] Ambient music listening experience

device by which the mind is capable of differentiating the contents of the sensed world surrounding

oneself.

"Repetition is everywhere, as much in what is actualized as in its actualization. It is the Idea to begin with, and it runs through the varieties of relations and the distribution of singular points. It also determines the reproductions of space and time, as it does the reprises of consciousness. In every case, repetition is the power of difference and differentiation: because it condenses the singularities, or because it accelerates or decelerates time, or because it alters spaces."[78]

In the case of ambient music, repetition is one of the few musical devices that our current tools

of music theory may characterize and make quantifiable judgments about.[79] In describing musically

ambient ideas like aural spaciousness, attack, decay, and timbral shifting, the methods of discrete

evaluation that tonal theory tends to use-- the distance between singular pitches, progressions that

identify tonicism, and other focal points-- fail to communicate information about these important

ambient sound materials. Fortunately, ambient music's vast repetitious nature, a characteristic of the

delay line system's construction, links adeptly to Deleuze's ideas concerning the philosophic

implications of repetition. Repetition in ambient music simply does not serve the same master as

repetition in other musical methods. The repetition in ambient music does not outline broader

sequential forms, highlight main melodic or harmonic ideas, serve as a harmonic backdrop, or provide

ostinato to other leading materials of greater purpose. But repetition in ambient music certainly affects

the acceleration or deceleration of time or the alteration of spaces.[80]

Deleuze's mention of the "condensation of singularities,"[81] appears to refer to a property that the

act of repetition exercises on objects in the world. Deleuze characterizes the act of repetition as a

smoothing out, or a sort of sanding down of the singularities and instances of objects in the world.

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78 Deleuze, Gilles. *Difference and Repetition*. Columbia University Press, 1995. pg. 220
79 Even though many theoretic systems factor out repetition altogether.
80 The awe and wonderment experienced by the listener
81 Deleuze, D&R, pg. 228

Repetition erodes the jagged particulars in the world down to a streamlined and interwoven series of mutually dependent properties; a series of assemblages that operate in succession. This is not to imply that for Deleuze, repetition "boils down" the repeated acts into abstract unities, devoid of identity content. In fact, quite the contrary takes place. For Deleuze, the identity of the items and objects repeated are accentuated and multiplied rather than downplayed. Each occurrence of the repetition announces itself to the world as unique and differentiated from each remembrance of the repetition in the past, and differentiated from each anticipation of the repetition into the future. This envisioning of repetition as a force that simultaneously weaves together yet exclaims difference may explain many of the ways in which ambient music's repetition reinvents itself to our minds continuously during the listening process.

J. Philosophy, Neurology, and Intermittency

In Deleuze's schema of repetition and difference, the repetitious dynamic that ambient music creates modulates the tandem lull and announcement of sound material. This dynamic relates to one of the most compelling phenomenological sensations that ambient music is capable of; collapsing the feeling of separation between the "external" world of ambient sound impacting the body and the "internal" components of our minds. The sensation of separation between the thought and the felt appears to dissolve. Ambient music's dynamic of lull and announcement eases Cartesian[82] mind/body distinctions, particularly the primacy of the former's domination of the latter. The blurring of the distinction between one's internal sound world and the external sound world alters the efficacy of the listener's agency. It does not reduce one's sense of agency or ability[83] to effect the world, but distributes it throughout the seamless space that Deleuze describes as unfolding during highly repetitious acts. Delezue portrays the distribution of one's agency through a subjective sonorous space as the "intending

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82 Substance Dualism, i.e. the idea originally formalized by French philosopher Rene Descartes that the mind and the body are two distinct entities, and that the mind controls and animates the body.
83 Or belief that the ability to alter the world exists

consciousness" distributed in the world. There are multifaceted implications for the new concept and

perception of a spread out, or more global agency:

"*One way to resolve this problem [of intending consciousness]... is to posit a paradoxical entity which is simultaneously intending and intended, subject and object, expresser and expressed, and then to argue that it is this paradoxical element which is the condition for differentiating between an intending and intended consciousness, subject and object, expresser and expressed.*"[84]

Deleuze's description of this global agency contributes greatly to the ideas of transcendental

sensation inherent to the ambient music experience. The concept of human agency being divided

across a variety of nodes or projections in the empirical world-- looking back, reflecting upon other

nodes of agency-- paints a vibrant picture of how the mind might conceptualize the ambient system.

With each interface in the ambient system that is available, such as the synthesizer key or the knob on

the reverb unit, the ambient experience allows the mind to shift perspectives rapidly. One is able to

project into the future and delay the decay of the past in such a way that agency ceases to remain in one

highly structural cognitive box. As Deleuze points out, this causes a certain confusion of identity

between the mind and the sonorous world. Suddenly, "subject and object" and "expresser and

expressed" occupy similar mental spaces of focus.[85] Clear-cut distinctions dissolve away. Repetition in

ambient music generates a wash of sound and mingling emotion. The listener's sense of agency is

dragged along for the ride.

Many neuroscience theories support this concept of constant mental shifting, especially when

the brain is stimulated by ambience. Many neuroscientists purport a concept termed "the edge of

chaos,"[86] wherein the brain rests in a state of constant intermittency. Within this theory, the brain is

represented as a system that grapples with the insertion of random variables, instantaneously delivering

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84 Deleuze, D&R, pg. 187
85 Deleuze, pg. 191
86 Bell, pg. 203

unexpected results through biological mechanisms.[87] Incidentally, this theory appears to mirror the

construction of ambient music systems. Is it possible that the brain generates the wash of cognitions

that we experience in a functional loop similar to the delay line system that generates washes of sound?

"*Intermittency means that the perceptual system (and the brain itself) is intrinsically metastable, living at the edge of instability where it can switch spontaneously among collective states. Rather than requiring active processes to destabilize and switch from one stable state to another, here intermittency appears to be an inherent built-in feature of the neural machinery that supports perception.*"[88]

Rather than characterize ambient music as forcibly altering neurological and perceptive

categories, strong arguments exist for the brain's ability to recognize and function in tandem with the

ambient system. This would take place not on the basis of adaptability, but as a collusion with the

ambient process- the intermittency of the brain identifying within and around the intermittency of the

ambient music system. Perhaps the brain feels drawn to ambient music not only as an aesthetic

category but as a kinship, a similarity of processes and tendencies that the one recognizes in the other.

While a delay line system lacks rationality, intentionality beyond it's design, sentience, or for that

matter, a pulse, it is very likely the case that our "reptilian brains" rely on perceptions delivered as more

fundamental environmental expressions, sorting out attractors and dangers from the countless stream of

similar objects in the world, observing the delay line system of an entire ecosphere.[89]

From both philosophic and clinical perspectives, there is an evident connection between the

brain and the ambience of sonic environments. The phenomenological reactions and cascades of

sensation when listening to ambient music are not merely outliers or inconsequential byproducts of

higher aesthetic principles. Although exact definitions and explanations continue to escape musicians,

listeners, and neuroscientists, the ambient process harnesses semiotic and affective idiosyncrasies of the

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87 Kelso, Scott. *Dynamic Patterns: The Self Organization of Brain and Behavior.* The MIT Press. April, 1995. pg. 97
88 Bell, pg. 206
89 Cheney, pg. 52

mind and uses them to create the sense of mental drift. On the level of sensation alone, one idea introduced at the beginning of this section-- that ambient music is low in information yet flush with emotion-- appears more vividly. The mind's ability to tease out loose affective and cognitive threads, wandering in the inseparable ambient space of the musical environment and the recesses of the mind, plants these seeds of wonder in ambient music. The mind's tendency to attach subjective emotional "mixtures" to simple and repetitive musical gestures, done without conscious intention, makes ambient music seem more intrinsically beautiful or engaging. All the while, the formal musical contents may hardly be attended to at all.

IV. Ambience As An Artistic Work

K. Authorship, Identity, and Defacement

Understanding ambient music as an artistic work presents numerous problems. Most genres of music demonstrate authorship and direct contact between the thoughts of the composers and the notated musical gestures on a score. They are flush with intentionality, focus, and human creativity at every moment of inception and execution. The composer writes every note down, places each articulation, illustrates each dynamic as it occurs, dictates phrase, period, repetition, the antecedent, the consequent, and every formation of intelligible harmonic and melodic content. There are clear relations between the performer's body and the music that is being heard. The performer of the music becomes an intensely anticipatory and heightened creature, breathing the qualities the composer demands from the score into a structured, acoustic dialog that sings and soars. The performer's mind absorbs and appreciates these movements, communicating through their physiological dynamic with the instrument the passions, joys, and sorrows with which listeners are all familiar. Ambient music, on the other hand, has a much more complex relationship to the composer, performer, and listener, or at least as these are traditionally conceived.

A difficulty with ambient music is the ambiguity of authorship and intentionality. In many senses, the composer is ultimately detached from the final composition since the delay line system has a large potential to produce a resultant musical product divergent from the original ideas of the composer. For whatever intentions the composer may have had, they are often at the mercy of the design of the delay line system. For a composer to achieve a compositional task, the design and arrangement of these signals and filters in the delay line system, rather than the mapping out of notes, modalities, and progressions, will dictate an accurate representation of the original musical idea. If this is the case, then does a composer of ambient music simply become an engineer? Brian Eno, the

originator and innovator of formal ambient music, repeatedly states in interviews that he is not a

musician or a composer, but merely an engineer or technician. As he first opines in an interview with

prolific rock critic Lester Bangs,

"When I say 'musician,' I wouldn't apply it to myself as a synthesizer player, or 'player' of tape recorders, because I usually mean someone with a digital skill that they then apply to an instrument. I don't really have that, so strictly speaking I'm a non-musician. None of my skills are manual, they're not to do with manipulation in that sense, they're more to do with ingenuity, I suppose."[90]

Eno draws a distinction between technical skills-- innovative engineering abilities in a musical

context-- and raw musical dexterity that a composer or performer may traditionally posses. For Eno,

his tendencies land him squarely in the former category. There is a historical precedent for this sort of

thinking in contemporary music. Pierre Schaeffer and Pierre Henry, the French creators of *musique*

concrete,[91] concerned themselves with very similar musical ends but pursued them at nearly

diametrically opposed means. They respectively occupy the positions of *Homo sapien,* human that

thinks, and *Homo faber,* or human that does. Throughout the creation of these first variants of electro-

acoustic music,[92] Schaeffer firmly occupied the sphere of the philosophic innovator and composer,

writing dense justifications as to *why* this new and foreign musical language was culturally significant

and artistically necessary.[93] In a foil to his director, Henry served the function of the music studio

"worker bee," the engineer and technical designer of this budding study of electronically manipulated

sound. He received instruction from Schaeffer as to which types of sounds and timbres were required

for a particular electroacoustic piece. [94]

90 Bangs, Lester. "Lester Bangs Interviews Eno." *Musician*. 1979. pg. 63-70
91 An early form of electroacoustic music that focused on tape splicing of found sounds in the world.
92 The progenitor genre of all electro-acoustic music
93 Appleton, Jon. "Aesthetic Directions in Electronic Music." *The Western Humanities Review,* Vol. XVIII No. 4, Autumn 1964
94 Bittencourt, Marcus. From a series of in-class lectures, February 2006

The likelihood that Eno subscribes to this model, or is neatly categorized within its confines, is small. Regardless of Eno's natural resistance to extrinsic interpretation (found in his television appearances or magazine interviews), this bipolar model leaves out far too many shades of grey when describing Eno's relationship to his compositions. In the same interview with Bangs, Eno posits that "...I had a lot of trouble with engineers, because their whole background is learning from a functional point of view, and then learning how to perform that function."[95] With this articulation, Eno communicates a complicated relationship with any musical role that attempts to subsume or define him. In his work with ambient music, it appears as though the *sapien-faber* distinction that applied so well to Pierre Schaeffer and Pierre Henry isn't salient. For Eno as a composer, or at least an interlocutor between the technical and the musical, the divisions may never be completely clear. Regardless, in order to understand Eno's position in his musical project and its philosophic underpinnings, the traditional idea of a composer in the ambient music process requires reevaluation.

For early electronic musicians, understanding and philosophizing about what they were accomplishing required them to consider the nature of their new art. Illhan K. Mimaroglu, a Japanese electronic musician, considered the problem of the defacement of the composer. This constitutes the question of whether or not such technicians, operating as intermediaries between the composer and the "actual" sound material, reduce or mute the amount of influence the composer is able to wield. In the case of ambient music and the composer, the delay line system itself may be interpreted as the "technician," the series of interpretive variables through which the composer must navigate. Mimaroglu argues,

"In electronic music, both in terms of practicability and of theory, the problem of defacement of a composer's identity through an interpreter's improvisation does not exist, due to the simple fact that

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95 Bangs, pg. 66

the mechanics of improvisation in an electronic music studio are far beneath than that of instrumental improvisation even at their minimum. It is therefore not possible in electronic music that a person other than the composer ... creates music using the techniques .... of instrumental improvisation."[96]

The idea that electronic music lacks the nuance and improvisational depth of a traditionally instrumental realm is a common one in comparisons between electronic and acoustic sound worlds. The accuracy of this sentiment aside, Mimaroglu relies on the premise that electronic and ambient music is built on a small number of relatively bound and finite variables. The process of mediation between the composer and the sound material has so few paths of diversion to begin with that any reasonably capable technician may translate the composer's ideas transparently. In fact, in many scenarios the technician is more capable of realizing the composer's musical intentions in an electronic medium than the composer him or herself.[97] Despite claims that electronic music tends to decrease intermediation because of the general lack of traditional instrumental performers, the studio technician's adeptness in finding and realizing the composer's desired sounds puts the technician in a crucial position.

Is it completely reasonable, as Mimaroglu appears to argue, to write off the technical framework of electronic music as fundamentally incapable of being as flexible or dynamic as its acoustic instrumental counterparts? At a certain point, one may say that the manipulator of a tape recorder is in fact "playing" the tape recorder and that the tape recorder is this individual's instrument of choice Even if the tape recorder deals with a series of fundamentally different variables than the cello or the clarinet, retention of the "instrumental" qualities associated with making music might allow the tape manipulator to be afforded the same considerations as acoustic musicians. The synthesizer, one of Eno's signal processors of choice, is commonly referred to as an instrument, but it retains absolutely no acoustical properties until its signal is amplified and turned into vibrations. Many of the

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96 Mimaroglu, Illhan K. "On the Newly Acquired Status of Music." (Columbia University Paper, 1970.) pg. 12
97 Ibid, pg. 14

common electronic instruments that we use today with little extra thought, from synthesizers to analog

organs, to electric guitars and effect pedals, all involve the same basic generative processes that

originated in the tape recorders of the delay line system. In designing the potential pathways of the

delay line system, the basic guidelines that nudge and provoke the flexibility of the sound materials,

the composer or technician becomes an instrumentalist, slowly gaining experience in designing the

system until he or she may be called a "virtuoso" delay line system performer.

L. The Structural Nature of Ambience

Beyond the internal dynamics of ambient music as an interpretative art form, what comparisons

may be drawn between it and other musical practices. Would one engage ambient works in the same

way one would refer to a symphony, a *Lied*, or a chamber music piece? Philosopher Jerrold Levinson

attempts to examine the nature of traditional music by first querying, in reference to a Beethoven

quintet, "...what sort of thing is it, this quintet which was the outcome of Beethoven's creative activity.

What does it consist of or in?"[98] Due to the transience of sound itself[99] and a listener's ability to

familiarize him or herself with a piece of music having never viewed the notated score, Levinson rebuts

the possibility of a musical work's substance being found in either sound itself or the written musical

score. He reaches the conclusion that, by virtue of a "widespread consensus... that a musical work is in

fact a variety of abstract object....a structural type or kind. Instances of this type are to be found in the

individual performances of the work. The type may be heard through its instances, and yet exists

independently of its instances."[100]

If one applies this interpretation to ambient music, there are a wide variety of paths to be

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98 Levinson, Jerrold. *What a Musical Work Is.* Journal of Philosophy, 77:1. (January 1980), pp. 5-28
99 Existing and then ceasing to exist very rapidly
100 Levinson, pg. 14

pursued. For what appears to be a robust interpretation of a musical work, what remains as the fundamental "structural type or kind" of ambient music?   If Levinson insists on subtracting the physical sound from the list of items to be considered, and instead relies on an abstract framework of some discrete variety,[101] then this reduces ambient music into two instances that may satisfy his criteria. First, the technical apparatus of the delay line system itself-- the tape recorders, the physical tape, the filters and processors-- relate to Levinson's model because of their tendency to remain as stable variables yet introduce permutations, much in the way performers might when we examine "individual performances of the work." The second mode by which ambient music may relate to Levinson's argument is that of the cognitions of the listeners themselves. However malleable and transient, ambient music tugs us towards familiar emotional places in a sometimes reliable fashion. This may be the sort of "structure-through-multiple-instantiation" model that Levinson alludes to.[102]

While listeners may find structure between the technical components and the cognitive excitations of ambient music, the cleaving out of the sound material itself as a significant component arguably delivers an impoverished vision of ambient musical pieces. When the sound materials such as timbre, tonal color, and aural density are removed from consideration, the technical array of the delay line system would disintegrate due to the lack of a critical component- the feedback, the return, that only develops significance when it blossoms in the mind of the composer or technician running the system. Without this component of sound becoming actualized as vibration in the air, the delay line system ceases to exist as such. It would run aground, teeter off the edge of the musical realm that the composer intends for it to reside in, and become useless in its translation of the composer's intent. Conversely, the lack of nuanced sound material eliminates any possibility for fascinating cognitions to spring forth from the reaction between the mind and the ambient material. One cannot contemplate the

101 Gurney, Edmund. *Melodic Forms and Ideal Motion*: *The Power of Sound.* De Musica Publishing, 2001.
102 Levinson, Jerrold. *Music in the Moment*, Cornell University Press, March 1998

arrangement and design of the delay line system with the speaker disconnected, and receive the same emotional drift and moments of wonder or exaltation. It appears as though Levinson's methodology is unable to account for the uniqueness of ambient music. Rather than simply conclude that ambient pieces *aren't* musical pieces with Levinson's standard as a benchmark, we may revise or assimilate Levinson's musical values to reflect the nature of what makes ambience in music such an effective artistic device.

M. Music Theory and Ambient Music

Common practice music theory encounters great difficulties when attempting to analyze ambient music. Its repetition and a few recurring modalities appear to be the only qualities of ambient music that tonal theory remains prepared to discuss. Even then, tonal theory is only able to do so ambiguously. There is no sense of tonicism or progression, no "A" and "B" sections that may be neatly roped off and analyzed. When repetition does become a subject of discussion, it occurs at such a dizzying frequency in ambient music that problems develop from even attempting to tabulate the amount of repetition occurring.[103] Primary musical qualities of ambient music such as extended alterations of attack, sustain, and decay envelopes, timbral shifts and vibrations, and aural spaciousness occupy realms for which tonal theory has no language or systematized method of evaluation. Some argue that because of this, ambient music belongs in a unique category called process music,[104] separate and judged differently from the rest of musical expression. These critics, like music theorist Ian Quinn, declare that process music lacks enough intellectually significant musical content to be considered anything but, as Pierre Boulez comments, an appeal to "extremely primitive perceptions..."[105]

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103 Kivy, Peter. *The Fine Art of Repetition: Essays on Philosophy of Music*. Cambridge University Press. February, 1993.
104 Quinn, Ian. *Minimal Challenges: Process Music and the Uses of Formalist Analysis*. Contemporary Music Review, Vol. 25, No. 3, June 2006. pg 284-285
105 Hulse, Brian. "Repetition, Difference, and the 'Minimal' in Minimalism." Delivered at University of Wales, London, UK. pg. 4

Accompanying Boulez's sentiment with a rejoinder not quite as harsh, Quinn states that "rather than

writing music with low redundancy and high information content, they[106] began writing music with

high redundancy and low information content."[107]

The alternate conclusion is to ask why music theory appears unequipped to deal with music of

this nature. The distinction between process and "normal" music appears to be false dichotomy, as

music theorist Brian Hulse succinctly states-

"*Process has a ring of movement, of a temporal conception where repetition is heard rather
than factored out. But there are serious questions raised by the very idea that process music could be
proposed as a separate musical category. If music is essentially the unfolding movement of sound in
time, how can it be considered as anything but process?*"[108]

Quinn and Boulez's reduction of process music appears to bring the composers, musicians, and

listeners of process music back to the fundamentals of music itself- the unfolding of aural statements

through time, the churning or vibration of sound as a sort of total sonic image or picture. In their

attempt to separate process music from "intellectual" or "high information content" music, Quinn and

Boulez appear to have only affirmed the fundamental musicality of these "primitive" genres, conjoining

with Hulse's interpretation of process musicality. However, a critic may insist that by affirming

ambient music's deep connection with the bare fundamentals of musicality, one has not rebutted the

accusation of primitivism that Boulez has leveled at this musical practice. There are two distinctions

that refute this position. First, if the goal of music creation is intellectualism, then attempts to write

music with the most possible sonorous information- music that would contain the *least* redundancy-

should correlate to the highest amount of thought or cognitive excitation. In the case of ambient music,

there is staunch competition to find a musical practice that, based on the previous analyses found here,

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106 Minimalist composers
107 Quinn pg. 292
108 Hulse, pg. 6

allows for more thoughtfulness and space for the mind to work. Secondly, Quinn does a poor job of

qualifying "information content," or the particulars of the aural content that one should judge as more

valuable than another. If complexity of timbral and environmental manipulation becomes the musical

information judged most valuable,[109] or most intellectual, then shouldn't one judge this information as a

superior form of musical information to more traditionally tonal data? That is, data presented via rapid

melodic shifts, a multitude of tonal modulations, or rhythms and meters that leap quickly. If this is the

standard that one applies, then most of the "high information content" music that Quinn references to

explicate his reasoning appears musically and intellectually primitive.

If the agency of ambient music is contained within the construction and dynamics of the delay

line system, rather than the resultant sound material itself, then how should one conceptualize a new art

form of dynamic systems? This conceptual framework runs counter to the typical compartmentalized,

single-agent intentional expression of other musical practices. Jeffery Bell, writing with a Deleuzean

outlook towards systems and chaos, evaluates dynamic systems as mechanisms of consistency and

constancy, the "massaging" and encouragement of which allows the system to continue its processes of

becoming.[110] A dynamic system whose variables lose consistency, or veers towards a field of radical

elements becomes a "cancerous system.[111] A dynamic system of refrains that abandons its unities in

favor of uncontrolled processes results in the death of that system.[112] Unpredictability, or "chaos" in a

system, do not by itself push a system towards collapse. For Bell and Deleuze, chaos is not the lack or

negation of order, but "an excess which has not been caught within the parameters of consistency."[113]

For all of the multiplicities in the perceptive world, emerging and then extinguishing before human

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109 Argumentation that states that traditional tonality is somehow superior to these other musical elements often becomes mired in appeals to tradition and ethnocentricity.
110 Also to continue its functioning indefinitely
111 Bell, pg. 168
112 Ibid, pg. 163
113 Ibid, pg. 171

senses can make an appraisal, chaos is the mind's cognitive tool for making sense of their becoming. Thus, chaos in the system exists not as disorder, but as the rapid speed by which every form takes shape as sensible perception before it vanishes.

For this model of the dynamic systems within ambient music, chaos is the condition for consistency within the system, building "abstract machines"[114] that unpredictability interact with one another under the scope of the larger dynamic system. These abstract machines slow down the extremely rapid speed by which chaos presents itself to our perceptive categories. They generate images of constancy in the mind.[115] The delay line system[116] is remarkable in that it is the abstract machine and the overlying dynamic system simultaneously. In the refrain, in the tonal and timbrical ambiguity, in the sense of spaciousness and emotive drift it provides, the delay line system slows down the chaos of the musical becomings that the sonorous world creates for the mind. The delay line system delivers an art form that comes together from a network of agencies. Ambient music is the art form of taming aural chaos, momentarily attempting to contain it. Using ambient music, one observes its becomings and involves the mind in its rumblings, undulations, and attempts to break free.

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114 Deleuze and Guattari, pg. 288
115 Bell, pg. 166
116 Our term for the dynamic system of ambient music

V. Ambience As Improvisation

"One launches forth, hazards an improvisation. But to improvise is to join with the World, or to meld with it."[117]

- Deleuze and Guattari

One overlooked aspect of ambient music is the deeply improvisatory relationship that develops between the composer and the ambient piece during its inception. Often, it is difficult for a listener to imagine this relationship due to the perception of ambient music as a series of static, homogenized sounds. Listeners are often unable to detect harmonized progressions or the beginnings and ends of phrases. They are unable to draw distinctions as to where the precise periods and repetitions take place. There is little audible technical inventiveness, or virtuostic deviation, that occurs within a piece of ambience music.[118] For the casual listener, what happened during the first thirty seconds of the piece will often happen in nearly exactly the same way during the next thirty seconds of the piece. They naturally assume that nearly no deviation has occurred in between.   On the contrary, ambient music reflects a deep dialog between the composer and the sound material, a dynamic dance that allows a piece to unfold and take directions that the composer cannot wholly predict.

N. Ambience And Mistakes

The technical setup of most ambient music, the delay line system, is an assemblage that allows for this improvisatory scenario to take place. As the sound signal reaches the end of a chain of filters and processors,[119] it emerges from the speakers and the composer is able to develop a sense of what has transpired based on his or her choice in the delay line system. From this result, the composer is able to approximate the changes in the system, nudging the sound material in certain prospective directions

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117 Deleuze and Guattari. "Of The Refrain." pg. 311
118 At least in the same way we would listen for such musical deviations in jazz or rock and roll.
119 The sound completes the delay line system more or less instantaneously

without ever truly knowing what the result of these novel combinations will be. Depending on the

level of divergence between the newest addition to the existent ambient network and the consistency of

the original sonic continuum, novel insertions may be mistakes or aberrations in the system that "shift

the deck" in an unintended direction. For ambient composers, these outliers and inconsistencies truly

breathe life into a piece of ambient music. While improvisation is typically thought of as anticipated

by the performer,[120] a decision that is made a split second before the act is executed, improvisation in

ambient music typically occurs in the split second *after* an original decision comes to bear. Brian Eno's

emphasis on the need for constant mistakes within the process of ambient music creation underlies his

broader compositional project of dynamic improvisatory sound. For Eno and other ambient composers,

improvisation travels beyond the more traditional realms of working within a particular tonal or modal

idea. Although other intentionally improvisatory musical genres around the world reach beyond in a

defined and discreet musical space-- from jazz to *Qawwali[121]*-- the task of the ambient composer

remains qualitatively separate. Contrary to these other improvisatory practices, ambient composers

work to continue the perception of total consistency within the dynamic system while simultaneously

incorporating divergent variables that push it in ways that the listener's mind does not immediately

grasp.

> *"I'm always prone to do things very quickly, which has distinct advantages - you leave all the mistakes in, and the mistakes always become interesting Any mistake can be the most important one - as long as there is one important feature.[122]*

This sentiment manifests itself in a variety of fashions throughout Eno's ambient music and

written works. In the operation of his musical processes and systems, novel technological

combinations produce completely unexpected results, or mistakes. While mistakes in the course of a

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120 A traditional acoustic instrumentalist versus a delay line system or tape instrumentalist
121 Sufi Muslim spiritual singing
122 Eno, Brian. Interview with *New Musical Express*. 02/02

rock and roll studio take or a classical music concert might derail what is considered musical or

beautiful, the potential of these mistakes are capitalized upon in ambient music. To this end, Eno and

composer Peter Schmidt designed a deck of cards that they coined the "Oblique Strategies" deck.[123]

Formulated in 1978 at the height of Eno's productivity as an ambient composer, they contain passages

such as "honor thy mistakes as a hidden intention" and "think blue" on identical backs and illustrated

faces that each describe a separate sentiment towards debugging creative blocks in the compositional

process. They serve as unexpected motivators or reminders of overlooked creative paths, especially

when one might feel as though all avenues have been explored. The Oblique Strategies are illustrative

of many of the relationships that operate on the periphery of an ambient composition's creation.

Auxiliary to the concept of the technological mistake being capitalized on, the Oblique Strategies often

fulfill the role of the traditional studio producer, providing a guiding hand or watchful eye over a

promising project that may be floundering. They encourage an exploration of previously untapped

cognitive material, incorporating a plethora of intuitive and technological variables throughout the

creative process.[124]

O. Musical Control And Manipulation

Ambient music arose from composers pushing the limits of their technology in an improvisatory

fashion. A vast array of ambient music strategies were born from the use of musical procedures and

processes in ways for which they were not conceived or intended. The continuous tape loop,[125]

originally designed for controlling or repeating shorter events in electronic music, was later used for the

production of sound itself.[126] With the realization of ambient and "delay-centric" music, tape loops

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123 Eno, Brian. Schmidt, Peter. *Oblique Strategies Deck.* 1978
124 "*Whatever obstacles a person may find in their composition, meditating on one of these strategies can help a person focus towards their goal. These oblique strategies never provide answers, but they give a person impetus to look somewhere they hadn't thought of looking before. It's like having someone look over your shoulder and point out something you overlooked.*" - From an interview with BBC.co.uk, 02/2007
125 An early term for the delay line system
126 Maren, Roger."Electronic Music: Untouched by Human Hands." *The Reporter*, vol. 16, April 1957

then used for accumulating whole new sections of a recording or score. For many composers,

accidental happenings pushed forward the development of these new techniques. For instance, the fact

that the drive motors of tape recorders sometimes run at irregular speeds was utilized in a creative

manner by early electronic composers. These irregularities in the drive motor speed produce noticeable

rhythmic inaccuracies between multiple tape recorders operating in tandem. Unanticipated deviations

such as these may be used to explore a new sonorous space. Many of these means, randomly

envisioned, stumbled upon, or some mix of the two, remain unexploited until they collide with a

compositional idea- an improvisatory birth. The need to accumulate a sound from a collection of

partial tones led to the invention of the tape loop in the earliest experimental electronic compositions.

This gave way to the idea of constructing complete musical structures with its aid. Eventually, the tape

loop made it possible to provide each partial tone with its own dynamic curve within a sound.[127]

In the utilization of these techniques, ambient music does not attempt to obtain a tightly wound

control of the music in a way that serialist composers like Milton Babbitt[128] and Karlheinz

Stockhausen[129] advocate in their electronic compositions. To the contrary, a fundamental tenant of Eno's

sect of the ambient musical tradition borrows heavily from his mentor John Cage, allowing sound to

"be itself" and float in a realm where the parameters of sound are free to exist and develop naturally.[130]

This is a fundamental distinction between Cage and his *proteges*,[131] versus the serialists who demand a

hyperactivity of musical control. Cage reasons that the desire to control sound results in restraining it's

potential and irreducibly internal dynamicism. When one gives up the desire to control sound, as Cage

claims he has, he is able to "clear his mind of music" and set about ways for sounds to express

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127 Koenig, Gottfried Michael. "Studio Technique." *Die Reihe*. Vol. 1, 1955. pg. 87
128 Babbitt, Milton. "The Revolution in Sound: Electronic Music." *Princeton Magazine*. Spring 1960. pg. 22
129 Stockhausen, Karlheinz. "The Concept of Unity in Electronic Music." *Perspectives of New Music*, Fall 1962. pg. 38
130 Cage, John. "Empty Words: Writings on Music '73-'78." *Wesleyan Publishing*. 1979. pg. 12
131 Brian Eno being chief among these

themselves naturally rather than as commodified vehicles for the expression of man-made theories or expressions of human sentiments.[132] Ambient music's encouragement of human sentiment places Eno's practices on a starkly different trajectory than Cage's musical ideology.

P. Process And Improvisation

Ambient processes inject a certain gracefulness into the omni-directional flux of sonorous musical materials that constantly surround listeners in the world. The improvisatory unfolding of ambient music as an almost achingly slow, gradual process eases the mind's absorption of these random variables and contributes to the mind's ability to make musical sense out of the aural whole. The mind settles into a sort of "snapshot" schema, musically and emotionally living in a moment or a series of moments that become abridged and adjusted as new ambient material comes to the fore. Thus, the larger road map of the ambient piece, no matter how divergent or cognitively dissonant a moment in the "now" might appear in relation to the past, forms as part of the natural or even expected assemblage of the constant flow of ambient music.[133]

Steve Reich's writing on the sensations of gradual music speak volumes about the mind's ability to absorb the randomness of ambience while still making intensely musical and often highly consonant sense out of the flow.

"Pulling back a swing, releasing it, and observing it gradually come to rest; turning over an hour glass and watching the sand slowly run through the bottom; placing your feet in the sand by the ocean's edge and watching, feeling, and listening to the waves gradually bury them"[134]

Reich interprets improvisation within process music in a very different realm than the flowery images that he ascribes to its unfolding. Although he remains an acolyte and advocate of process music in most of his artistic endeavors into musical minimalism and beyond, Reich denies the possibility of

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132 Cage, John. "Experimental Music." *Silence*. 1979, pg. 10
133 Including its technical variables and emotive contents
134 Reich, pg. 47

an improvisatory quality to this sort of genre. He states:

"The distinctive thing about musical processes is that they determine all the note-to-note details and the over all form simultaneously. One can't improvise in a musical process--the concepts are mutually exclusive."[135]

Reich's outlook dictates that process and ambient music improvisation becomes impossible as soon as the musical processes[136] harness all of the parameters of the intended composition. When each ratio and dynamic of the sound is in some way mediated and modified by the filters and modulations in the delay line system, then the improvisatory capacity of the composer or the performer apparently ceases.

One might take issue with Reich's analysis because of his inference that, since the process has yoked a wide breadth and depth of musical parameters, it is a static and single minded musical entity. When Reich perceives a static, or "monadic" quality in the process music, he in turn assumes that the actual process from whence it was birthed must be a static entity as well. When the mind intuits the gradual processes of music as traveling in a singular direction,[137] or when the mind builds an apprehension of both the comings and goings of the sound, one is tempted to assume simplicity throughout the creative process. The composer and the listener operate from the assumption that complex musical ideas yield complex musical results. When the listener senses that there is "not a lot going on" in a piece, they may reach the conclusion that the ideas and procedures from which the music emerged operates as a simple, single, solitary, insulated process.

In ambient music this could not be further from the case. The process, the delay line system, is an unpredictable, erratic assemblage, flush with its own sheets of tension and release. It is a musical

135 Ibid, pg. 7
136 Specifically the delay line system
137 Or so we think

and mechanical space where dozens of ideas unexpectedly meet for a split second and then tear apart again within each repetition. Yet in both the note-to-note progress and the overall shape of the form, an atmosphere of absolute tranquility often emerges.

Q. The Guiding Hand In The System

A question of clarification concerning the ambient process arises. Not all ideas of ambience involve process and not all ambient processes contain the necessary tendencies to be labeled improvisational. A primary characteristic of the improvisatory ambient system is the collapse of separate musical materials into a single flow. This system guides numerous heterogeneous threads inward towards each other.[138] The guiding hand of the delay line system has usurped these formally disparate musical materials and is now able to influence every parameter of the resultant homogeneous aural flow. When gestures, voices, and other sonorous elements are swept up in the same "opera," washed together by the same delay line variable processes to create a stammering, a vibrato, a tremolo, an overspilling of one sound unto the next, these formerly disparate elements become intimately bound.[139] At the end of the chain, this new flow may be thought of as an organic synthesizer, both in the manner of physical combination of different sine waves intervals as well as its representation of a complex series of sonic elements as a single, undulating, pulsing singularity that may then be herded, pushed, and pulled in a group action. The improvisatory elements that the composer feeds into the delay line assemblage emerge and disappear or crest and fall on the same aural canvas as the other musically continuous materials that, for a split second, maintain their repetition or drone against the improvisation.

This synthesized assemblage works to ensure that improvisatory elements in ambient music aid

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138 Deleuze & Guattari, pg. 113
139 Latour, Bruno. *Reassembling the Social: A Guide to Actor-Network Theory.* Cambridge Press, 2003. pg. 211

and juxtapose one another, rather than introduce destructive elements that might tear the system down. The passions of the human composer are crucial for sustaining the machinic assemblages from which the ambient process give rise. These very non-systematic elements, raw emotion and inner intuition, propel and prolong the sonic lines that the delay line system begins. These reactive sensations and intellectual activities are just as vital and coextensive to the delay line system's prolongation and improvisation as a well designed technical framework.[140] System and process in ambient music are inescapably linked to both mechanical and mental realms, each looking to the other for guidance in improvisatory gestures.

Within the improvisatory ambient process, the realms of the cognitive and the technical begin to subsume and swap qualities with one another.[141] In a moment of intimate mingling between mind and machine, the cognitive abilities that we possess as actors cease to reside solely in ourselves, but are distributed throughout the landscape of the improvisatory setting. In terms of actor-network theory,[142] cognition becomes distributed to "localizers" that operate as "competence building propositions, of many small intellectual technologies."[143] Each of the localized elements carries with it a genealogy, or history that may be traced empirically. These localizers, nestled either within the mind, the mechanical, or as some meta-element of musical feedback, represent patches in the web of intended cognitions that push the improvisation of the ambient process. A localized patch carries with it its own "vehicle" or series of traits, tendencies, and inherent predispositions. Thus, each variable unit of the delay line system[144] may be conceived of as a patch, each with a functionality that contributes something different to the improvisation. This patch confronts the swirling elements of chaos and uncertainty in the

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140 Deleuze & Gutattari, pg. 145
141 Latour, pg. 145
142 A fascinating tool for framing the improvisation within the ambient process.
143 Latour, pg. 213
144 Each filter unit

musical materials that approach it and makes a "choice." This choice represents a proto-cognitive act

that funnels the sound material down the patch's inherent functional pathways. This sorts the bits of

musical chaos not only to maintain the constancy of the system, but to breathe life into the human

composer's artistic intent.[145]

R. The Rhizome And Ambient Improvisation

For the purpose of improvisation and musical decision-making, the schema or technical diagram

of the delay line system that was previous envisioned must be greatly expanded. The delay line system

alone becomes insufficient in explaining and representing the diffusion of agency, the patches of

localized cognition that emerge, and the dynamic between mental assemblages and technical

assemblages in these improvisatory settings. The boundaries of the previous map must be exploded to

incorporate all of these interwoven elements by using a new rhizomic model. A philosophically

Deleuzian concept, the rhizome represents a lack of origin wherein each singularity is interconnected to

one another. These elements feed and feedback in a network where sound and cognition flow between

one another in both the machinic and mental formats, altering the sense of self within both the

composer and listener.

What are the implications for ambient experience when this rhizomic model is mapped onto it?

First, there are no beginnings from which a linear sequence may emerge, but rather densifications,

intensifications, reinforcements, injections, showerings, and other intercalary events.[146] Second, there

must be a distribution of inequalities in the system so that the musical contents shift and flow in

attempts to gain stability and equilibrium in the ambient world. Third, there is a superposition of

disparate rhythms in the system; the ambient world subsumes and builds a broad interrhythmicity. No

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145 Latour, pg. 215
146 Deleuze & Guattari, pg. 321

meter, syncopation, cadence, sense of finality, resolution, or conclusion are evident in this large network world of ambient interrhythmicity. The rhizomic idea of the ambient process relies on the concept that the beginning "always begins in-between," a state often described by one of Deleuze's favorite terms, *intermezzo*.[147]

Rather than envisioning ambient rhythm as a series of well-defined pulses, characteristic patterns, and variations between free and strict metrical schema, rhizomic interrhythmicity operates as a sort of character or visage that permeates both the macroscopic and microscopic musical textures. Ambient music has a sense of rhythm even if it takes place in the oscillations and growths of the notes themselves.[148] Rejecting meters or other 'striated' notions, rhizomic ambient rhythms form musical territories that constantly shift and blend, operating within the same flux-like dimensions as harmony and timbre. These territorial motifs form rhythmic faces or kaleidoscopic personalities that move together in a wave of musical content that crests and falls, personalities that emerge as listeners find ambient rhythms no longer associated with specific metrical subjects.[149] Within each shift of the territorial motif, the character of the rhythm may be augmented or diminished by the additions or subtractions of sounds, always increasing and decreasing in duration, amplification, and modulation.

This idea of rhythmic character allows rhythm to move beyond the "placard stage"[150] in music. Rather, ambient rhythm contains affective, expressive qualities that intimately mingle and merge with harmony and melody. These expressive qualities within ambient rhythm share mutual variables and co-dependencies in the system. Rather than marking the boundaries of rhythmic territories, these expressive characters speak to the interior impulses and permutating tendencies of the system itself.

147 Ibid, pg. 329
148 Rather than the spaces in-between the notes as rhythm has traditionally been framed
149 Deleuze & Guattari, pg. 383
150 Bell, pg. 92

Rhythms that improvise within ambient music no longer constitute signatures, reminders, or well-notated guides, but represent "styles" with individual expressive qualities all their own.[151]

Between the organic and technical agencies that ambient music navigates in its improvisation, there exist different slants of continuity and discontinuity. There are both stop-gaps-- areas between the organic and the technical that have trouble communicating-- and moments of total fluidity. Ambient music improvisation embodies the practice of discovering what becomes homogeneous and fluid and what remains heterogeneous and stubborn between these two realms of agency. Even when a moment of fluid agency takes place between the organic and the technical, their contact is rarely continuous and substantial. These episodes of communication between improvisatory ambient agencies arise "only [as] provisional appearance[s], much like a shower of physical particles in the brief instant they are forced into appearance."[152]

Ambient music improvisation occurs on a spectrum of perspectives, each with their own implications for the sensations and experiences of composers and listeners. From the bare technical possibilities of the delay line system, to the distribution of agency and chaos throughout its proto-cognitive and mechanical components, the idea of the choice in ambient music remains supreme. The dance that takes place between the intended musical idea and the unintended musical idea, the social and the technical, the chaotic and the stable, all contribute to both the problematization and wonder of the delay line system. During the creation of ambient music, there is an improvisation every step of the way. Building the ambient world, or experiencing the ambient process, represents a way one can relish and cherish the chaos and stability of sound coming together. The collusion of these two elements embodies this dance; simultaneously predictable yet elusive in nearly all of its variables.

151 Deleuze and Guattari. pg. 381
152 Latour, pg. 71

IV. Conclusion

This discussion has covered a wide swath of musicological, social, philosophic, and technical realms. Ambient music unites these categories to form a synthesis of topics that each contribute to one another. At first glance, ambient music appears remarkable only for its low-level demur and simple, yet penetrating textures. Yet these sonorous ideas, coupled with the dynamics of the ambient process, human neurological and psychological reactions, its unveiling as a category of art, and its deeply improvisatory qualities, places ambient music in an unique musical category. Ambient music carries with it a great amount of cognitive weight, or tug, yet appears rudimentary and benign due to its lack of traditional musical practices. The fact that ambient music fails to deliver much in the way of the concepts that common practice tonal theory is equipped to talk about, such as melody, harmony, rhythm, and form shouldn't prejudice the musical importance of its content.

Ambience exists as an aspect of nearly all musical genres, a dimension that remains outside of the more conventional, theory-focused methods of music analysis. As a sense of cognitive space or drift in different musical genres occur, many of the same analyses in this thesis could cross-apply. Concepts of sensation, artistic understanding, and improvisatory agency do not exist solely in ambient music proper. Instead, they may be found independent of the delay line system, whenever and wherever the mind drifts and listeners find themselves in separate, nearly meta-musical worlds that run co-current to the present.[153] While the delay line process exists as a technical configuration (a physical series of pathways with an input, mediating filters, and an output), it remains a specialized example of the kind of creative choices that a composer or a musician makes to generate any overarching sound world. This schema of input-mediation-output may be found in a near infinitude of musical situations. When a note is blown into a flute, keys are used to manipulate the shape and resonance of the original

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153 As we may find in a work by Bach, Beethoven, Liszt, etc

note; an adjustment of the variables of the process. From this, a resultant tone springs forth, and the way it echoes across the room informs the performer as to which new manipulations to make in order to maximize the potential of the process.

Brian Eno and other like-minded composers harnessed the experiences of ambience that they originally felt in other musical formats and engineered a new series of compositional tools that were designed to replicate these sensations. For them, achieving intentional ambience in a musical setting involved cutting through many layers of striated musical texture and code to bring to the fore this truly fascinating part of aural experience.[154] In the creation of the delay line system, composers like Eno hoped to create a world both of musical chaos and musical consistency, one that produced Zen-like calm and a sense of pleasant drift for the mind to become more imaginative. Rather than the composer or the instrumentalist dictating each and every minute facet of the sound experience, the rhizome-- a network of agency-- works to unveil and indulge ambient sensations.

Ambient music operates as a reflection of the self, a self that includes the social and technical world in which one is immersed. Ambient music enables the listener to go beyond the idea of the self as a single, rational, and purposeful agent in the world. The distribution of sensations, agencies, and cognitions arising from, caused by, and residing *within* ambient music strongly suggests a very different portrait of subjectivity, one that is fragmented and dynamic. The ambient self emerges during our interactions with the atmospheres of the ambient sound world, a world that compels or restricts thoughts and imagination. The ambient self develops as the organic embodiment of the ambient process; a delay line system of biological matter merging in and out of the different rhizomic musical agencies. Reflection on and perspectives of the ambient self, working dynamically within an ambient

154 Chadabe, Joel. "Electric Sound: The Past and Promise of Electronic Music." Prentice Hall Publishing, New York, 1997. pg. 60

world, comes to combine and subsume sound, thought, sensation and agency into an ethereal system.

Compact Disc Track Listing

1. I. *Tenture De Cabinet Prefectoral*; II. *Tapisserie En Fer Forge*; III. *Carrelage Phonique* by Erik Satie

2. "Three Variations on the Canon in D Major by Johann Pachelbel" by Brian Eno, from the album *Discreet Music*

3. "1/1" by Brian Eno, from the album *Music For Airports*

4. "Thunderstorm" from the album *Relax with Nature Vol. 8*

5. "Music for Changes: I Ching." by John Cage

6. "[rhubarb]" by Aphex Twin from the album *Selected Ambient Works Vol. 2*

7. "84' Pontiac Dream**"** by Boards of Canada, from the album *The Campfire Headphrase*

8. "Dark Wind" by John Luther Adams from the album *Dark Wind*

9. "2/1" by Brian Eno, from the album *Music for Airports*

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