

QUANTUM IMPROVISATION:
SONIC CONSCIOUSNESS AND PAULINE OLIVEROS

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE COLLEGE OF GRADUATE STUDIES

(Interdisciplinary Studies)

THE UNIVERSITY OF BRITISH COLUMBIA

(Okanagan)

May 2015

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Abstract

Oliveros's quantum improvisation is the result of listening deeply to the ethical co-emergence of improvising humans and intelligent machines. Pauline Oliveros's *Triple Point* (with Doug van Nort and Jonas Braasch) consists of three human musicians performing live with a listening and improvising computer agent. Van Nort's FILTER (Freely Improvising, Learning, and Transforming Evolutionary Recombination system) selectively listens and simultaneously plays with the musicians. This dissertation explores improvisation and contributes a cross-field definition of this highly contested term: improvisation is the performance agency. The first of three movements provides a cross-field review of improvisation; the second movement employs autoethnography to study the sonic and social improvisations of *Triple Point*; the third movement explores quantum improvisation by employing writing as a performative tool to discover Oliveros's ethical machine and human improvisation. The three interconnected types of improvisation are theorized as constraining and provoking improvisation: personal combinatorial, social evolutionary, and ethical transcendent. This dissertation concludes with the claim that Oliveros's quantum improvisation contributes to a theory of creativity that reverberates with socio-ethical connection and discovery.

Preface

I am responsible for the design and analysis of this research. The research received a certificate of approval from UBC Okanagan Behavioral Research Ethics Board. The project title was Quantum Improvisation: The Evolving Consciousness of Pauline Oliveros. UBC BREB number is H12-01567.

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Glossary

ABSTRACT EXPRESSIONISM

This innovative and influential American artistic movement flourished after WW II and is connected to improvisation with its focus on spontaneous, automatic, and subconscious creation; although the painting themselves were highly planned, improvisation was used as a research and compositional tool. See Jackson Pollack.

ACCEPTING

This is a well-known concept used in the training actors and in drama therapy. Actors must practice accepting the cues and directions of other actors. See also blocking (Johnstone, 1999).

ACCESSIBLE INTUITION

Theatrical educator Viola Spolin uttered the phrase “my vision is a world of accessible intuition (Spolin, 1999).

ARTIFICIAL AGENT

A term that comes from the field of artificial intelligence and concerns the development of an autonomous entity that solves problems based on goals; the computer processes that must model real world situations in computers systems, biological systems or organizations are described as improvisatory.

AUTOMATIC WRITING, DRAWING, SPEECH

These forms represent attempts to access unconscious, involuntary and/or spiritual sources in human and computer modes of expression. See Surrealism.

BAKHTIN, MIKHAIL MIKHAILOVICH

This Russian literary critic and philosopher (1895-1975) of growing importance, has impacted the social sciences with postmodern concepts such as chronotype, polyphony, unfinalizability, and carnival: concepts that question western assumptions about language and suggest that improvisation in language and behaviour is historically and socially interconnected in complex ways that go beyond the autonomy of the individual and singular notions of truth (Bakhtin,

1981).

BEAT GENERATION

Improvisation was a way in which to access immediate, exuberant, and spontaneous forms of Romantic literary expression for this post-WWII group of artists such as Allen Ginsberg, Jack Kerouac, and Jim Morrison; their advocacy of liberation has had an enduring influence.

BLOCKING

A refusal in acting to accept what is given by another actor. See also “Yes, And” and “Accepting” (Johnstone, 1999).

BOAL, AUGUSTO

Boal is a Brazilian theatre activist, theoretician, and leader in the movement known as theatre of the oppressed. This theatre was influenced by educational theorist Paulo Freire’s work and included a number of innovative strategies to create a theatre of social change that included the audience as participants and fellow improvisers.

BUBER, MARTIN

This influential existential philosopher (1878-1965) and theologian of dialogue synthesised a dialogical existence that informs improvisation as a way in which existence is primarily a creative interpersonal relationship.

CAGE, JOHN

Cage (1912-1992) is considered the leading American avant-garde composer; Cage practised experimental music (purposeless play) that included chance-based improvised processes and performances. Cage often distinguished his work as not being improvisatory.

CANTONESE OPERA

To be distinguished from Peking Form; this primarily vocal form of improvisation remains a remnant form of a declining tradition (Chan, 1998).

CLOSE, DEL

Renowned and influential teacher of theatrical improvisation.

COMPUTATIONAL CELL BIOLOGY

This applied mathematical approach to biology refers to the dynamic modelling of cell biology using both computational and intuitive approaches; improvisation is implicated in the development of mathematical models.

CULTURE

Researchers considering a systems model to better understand the evolution of culture consider biological models of improvisation as a metaphor for comprehending how culture evolves. (Gabora, 1997)

CSIKSZENTMIHALYI, MIHALY.

The positive psychologist and author of *Flow: The Psychology of Optimal Experience*, is an important contributor to social theories of creativity as well as happiness; he has also studied the improvising brain of jazz musicians. (Csikszentmihalyi, 1990)

DECISION-MAKING

This describes an area of exploration by a range of researchers interested in understanding how to replicate and predicate how improvisers from many domains make decisions.

DEEP LISTENING

A term coined by composer and theorist Pauline Oliveros to describe an intense form of meditative listening that spurs creativity and alternative strategies for an improvised relationship with sound.

DIALOGIC

This philosophical term used by Bakhtin to describe the relational dynamic that continuously informs how humans respond to social experience.

DLPFC-MEDIATED.

Term from neuroscience used to describe areas of the brain that are suppressed during improvisation of jazz musicians. Dorsolateral prefrontal cortex suggested of inhibition of regions involved in monitoring and correction (Berkowitz, 2010). See Charles Limb.

EPIDEMIOLOGY

This is the study of health-determinant patterns in a society from a statistical and evidence-based perspective; improvisation is used to model alternatives to traditional truth-based clinical discourses. Improvisation is also used to model the spread of viruses from animal to human.

ERICSSON, K. ANDERS

Ericsson remains one of the leading psychologists in the emerging study of professional expertise; improvisation is implicated in describing the difference between experts and novices in solving problems.

EXPERTISE

Very large and broad area of knowledge based on the work of Anders Ericsson where improvisation is discussed as an element of expertise development for automated and on-the-fly decision-making.

EVOLUTION

Improvisation may be seen to occur in theories regarding the development of biological species as in the theories about the origin of universe. See also Genetic Evolution.

EVOLUTIONARY ADAPTIVENESS

Part of the growing field of evolutionary psychology which holds that adaptive mechanisms, from an evolutionary perspective, offer unique perspectives on understanding human behavior. Improvisation is implicated because one of the premises is the role of neural mechanisms in unconsciously solving problems.

EVOLUTION

Evolutionary change may be fruitfully understood as a process by which DNA is adapted using improvisatory patterns.

FILTER

van Nort's FILTER (Freely Improvising, Learning, and Transforming Evolutionary Recombination system) is artificially intelligent software. FILTER selectively listens and simultaneously plays with the musicians. It has undergone two generations of development. It is based upon biological algorithms and was the subject of van Nort's doctoral dissertation in computer science. The software actively listens, selects, and plays back. It does not use a prepared set of sounds in a database. It listens and responds live. FILTER has its own direct feeds to each musician and its own monitor so that the other musician can respond to it. FILTER often plays back the real time sounds of the musician unpredictable and surprising ways. The musicians listen as it selects and plays back their own sounds and continue to improvise.

FLOW

Fully immersed mental and physical state of being with a loss of self-consciousness coined by positive psychologist Mihaly Csikszentmihalyi. States of flow are often accompanied by improvisation activity.

FREE JAZZ

Complex term describing an avant-garde form of jazz that breaks down form and rhythmic structure. Associated with Ornette Coleman but widened to generate a broad meaning to include a type of improvisation that frees itself from melody and tone.

FREIRE, PAULO

Brazilian educator known for advocating for models of education that would counter oppression and conformity. Improvisation is implicated as a pedagogical method that can help learners remake themselves as critical conscious agents.

FREUD, SIGMUND

Freud, the founder of psychoanalysis, implicates improvisation (free association) as a mode in the emergent dialogue between patient and therapist as well as in the symbolic interpretation of unconscious or dream states.

ITALIAN LYRICAL SINGING

Group musical form that focuses on the interpersonal relationships of the singers. (Magrini, 1998)

JAVANESE GAMELAN MUSIC

Highly improvised dynamic tradition in songs, puppeteers, and cyclical piece where choices are made within extant patterns.

LATIN DANCE MUSIC

Regarded as a parallel music tradition to jazz in which musicians improvise under a cohesive set of idiomatic substyles. (Manuel, 1998).

LIMINALITY

The quality of being on a threshold or boundary used by Victor Turner and others in anthropology and other social sciences with spatial and temporal dimensions.

LOFC

The lateral orbital prefrontal cortex is related to the suspension of self-monitoring (Limb & Braun, 2008).

MAQUIM

One of the major forms of traditional Arabic music which relies heavily on improvising of tonal, rhythmic, and audience interaction.

MPFC

Medial prefrontal cortex; associated with self-expression and higher-level goals and intentions.

PRESSING, JEFF

Pressing is regarded as one of the first cognitive psychologists who studied and theorized upon improvisation (Pressing, 1998)

PLAY

Play is an educational, philosophical, and psychological field of inquiry that examines how human beings as well as animals learn, develop, and perform through play.

POLLOCK, JACKSON

This American artist (1912-1956) radically transformed painting in the 1940s by attempting to end the search for representational elements in his paintings through innovative technical and aesthetic breakthroughs that incorporated improvising in the process of making art that resisted easels, conventional paint, materials, and hand-based techniques.

SPEAKING

Related to the large body of work that theorizes the connection between language acquisition and music, there are clear analogies between speaking and musical improvisation. (Levelt, 1998)

SPOLIN, VIOLA

In 1963 Spolin published what is considered to be the dominant source book in this field, *Improvisation* (Spolin, 1999).

SURREALISM

A left-leaning, Freud-influenced, Eurocentric cultural movement that advocated, like did improvisation, a “higher reality” through access to the unconscious as the primary mode of artistic creation (Belgrad, 1998).

THEATRE OF THE OPPRESSED

Term used in 50s and 60s by Brazilian theatre practitioner Augusto Boal for a type of a social and political theatre that uses improvisatory dialogue between performers and the audience. Influenced by Paulo Freire, this type of theatre allows the audience stop, explore, and change reality.

TRIPLE POINT

The name of an experimental band consisting of Pauline Oliveros, Doug van Nort, and Jonas Braasch, named after the quality of a substance to co-exist in phases of gas, liquid, and solid in

thermodynamic equilibrium.

WEST AFRICAN MUSIC

Often considered an important source for Latin and Jazz improvisatory forms (Manual, 1998).

WHOSE LINE IS IT ANYWAY

This comedic television program based upon a structure of improv games popularized and perhaps mythologized the benefits and disadvantages of improvisation.

YES AND

Classical phrase used in theatrical improvisation.

Acknowledgements

I acknowledge the indigenous land, people, and culture that informed this work. My colleagues provided invaluable assistance and inspiration. Aleksandra Dulic, you whispered the right sounds at the right times. The good parts of this work would not exist without your wise and practical guidance. Robert Belton—Bob, you allowed me to stand beside you as an explorer. You are one of the most talented listeners and collaborators I have known. Virginie Magnat, you offer a living exemplar of the ethical performance scholar, one who seeks compassion and contribution at all times. Words cannot describe the gifts you offered. Thank you, Pauline Oliveros. You welcomed me into your sonic universe. You allowed me to experience Deep Listening where art, practice, and life reverberate and give rise to discovery. Thanks go to artist/scholars Doug van Nort and Jonas Braasch. Doug and Jonas, you continue to inspire me. Thank you to my colleagues at University of British Columbia, College of the Rockies, Red River College, Camosun College, and Okanagan College. Thank you, Davidicus Wong, Peter Arthur, David Walls, Kelly Pitman, Shawn Wilson, Sonja Knudson, Keith Shanks, Kate Johnson, Amy Grant, Seana Dombrosky, Mare Atleo, and Richard Atleo. Thank you to my parents Ji Won Chung and Sook Ja Chung. This work began many years ago at Simon Fraser University with Carolyn Mamchur.

Dedication

I dedicate this work to Alberta Kamstra, Clementine Chung, and Beckett Chung. Our greatest improvisation is family.

INTRODUCTION

MOVEMENT I - PERFORMANCE AND AUTOETHNOGRAPHY

Improvisation is the performance of agency. Oliveros defines quantum improvisation within context of the social and political ethics of her practice known as Deep Listening. Quantum improvisation co-emerges when humans and sentient machines listen deeply and improvise together. Deep Listening, the development of sonic consciousness, remains the key to the interdisciplinary and complex set of fields known as improvisation.

Improvisation resonates as a protean subject.

For years, I didn't know *how* to study improvisation or how to define the term. One thing I thought I instinctively knew was that reading wasn't going to do the job. Improvisation wasn't to be understood by thinking: it needed to be lived, to be experienced. When I was introduced to the discipline of "Performance Studies," I discovered the theoretical perspectives, critical methodologies, and research values that could help me study improvisation.

In the words of performance scholar Norman Denzin, performance autoethnographers are concerned with an "improvisatory politics of resistance"; "performance autoethnographers struggle to put culture into motion, to perform culture by putting mobility, action, and agency back into play" (2003:16). That is why, *before* I say very much about improvisation, I need to introduce the discipline of performance studies. And *before* I can say a great deal about performance studies, I need to reference the social science upon which much of performance studies is based.

Performance studies is based on "a kind of anthropology" where "performances themselves" are studied in the field by researchers (Turner, 1996; Geertz, 1973; Goffman, 1989). These

researchers are trained in how to appropriately participate and observe. Intriguingly, much attention is paid to reflexivity, observing one's own observations. Early anthropologists--in particular those from the nineteenth and early twentieth centuries--taught us a great deal about the pitfalls of field research (Turner, 1986), so it was important to learn how to be a good field researcher.

The turn toward anthropology and qualitative research (Turner, 1986) helped field researchers immeasurably because one of the essential risks of field research is judging people according to one's own cultural and ideological biases. Another key pitfall of field research is failing to understand one's own values as a researcher and what impact these might have upon others who may have very different perspectives (Conquergood, 1991). This concern led to a deeper understanding of the core methodology of performance studies, which is known as "performance ethnography."

After much study, I understood that performance ethnography and its variant, autoethnography, was the most appropriate and productive method for studying improvisation. Autoethnography is a self-reflexive form of writing and is a critical approach in which the researcher positions the self in the community to be studied (Turner, 1986) and comprehends written words as inseparable from the cultural contexts that create them (Denzin, 2003). It strives to be respectful by considering the needs and expectations of the people, culture, and performances that are the focus of the research (Geertz, 1988). But before I could learn too much more about performance autoethnography, I had to understand something about indigenous methodologies of qualitative research. Currently many new and challenging qualitative methods of research are grounded in indigenous ways of knowing and being (Denzin, 2003). These indigenous methodologies helped prepare me to enter the field.

Allow me to summarize. I wanted to study improvisation but first I had to understand 1) performance studies 2) performance autoethnography and 3) indigenous research values.

The most challenging of these three elements was the indigenous research values. Indigenous ways of knowing and being altered my approach and my concepts of self as a researcher. Simply put, understanding one's own biases, worldview, and cultural assumptions is a never-ending, daunting, and challenging project. I spent much time identifying and trying to digest my own cultural assumptions concerning identity, knowledge, and power. During this time, I wrote and published a book, *Global Citizen: River of Love and Other Essays* (2012), about my quest to understand my upbringing and cultural identity. I also questioned the sociocultural assumptions I held as a teacher, scholar, organizational leader, and community member. These assumptions include experiences of colonization as a newcomer to Canada, hybrid experiences as a Korean Canadian, and awareness of my own class, privilege, and gender. I will discuss in the research methodology section of this work how important it was to self-reflexively position myself in this research.

Journey into Improvisation

When I thought I was ready, I discovered another space waited for me: I needed to review the vast amount of scholarly and non-scholarly work concerning improvisation. The literature review was another challenging road.

Soon I began to feel that improvisation was implicated in just about everything. I was both inspired and overwhelmed. Certainly, the musicologists had a great deal to say (Nettl, 1988), and the theatre people (Spolin, 1999); the art people (Belgrad, 1998); the psychologists (Pressing, 1988); the therapists (Jones, 2005); the teachers (Sawyer, 2011), and so on. Then I stumbled upon people I didn't expect to find while studying improvisation: neuroscientists (Berkowitz, 2010), quantum physicists (Kumar, 2008), and computer scientists (Beck et al., 2001).

People were asking really interesting questions, including:

1. Is improvisation a “self-organizing” property seen in “networks of complex non-linear” phenomena? (Johnson, 2007)
2. If so, is improvisation part of a larger theory of how “the New” evolves in the universe? (Kauffman, 1995)
3. If that is the case, how does improvisation, as self-organizing non-linear phenomena, impact our understanding of creativity? (Berkowitz, 2010)

Once I felt I had learned enough to understand these questions, I felt out of my depth. What to do? I didn’t realize that mathematical algorithms based upon improvisation in nature (using models of chaos theory and emergent science) allowed us to better understand networks of complex phenomena. Nor did I know what to do with the fact that software models using improvisational theory were at the forefront of creating artificially intelligent machines (Johnson, 2007).

While the literature review was taking me to surprising destinations, I made another interesting (although not unexpected) discovery: Improvisation was a tool being used by the “practitioner world,” not just the scholarly and creative realm. People in many diverse consulting arenas were employing improvisation in two significant ways. The first we might call “social improvisation.” Organizations were using improvisation to better understand how to have creative conversations for the purposes of innovating new products and processes (Crossan, 1988). And at the same time, another group of practitioners were using improvisation as tool for “personal and social mindfulness,” as a way of achieving different states of awareness: we might call this the improvisation of consciousness (Scharmer, 2007).

At one of her first social gatherings at the University of British Columbia in Kelowna BC, I met a new artist and professor named Aleks Dulic who offered me a name: Pauline Oliveros. She invited me to examine what Oliveros says about improvisation and listening. On that day, although I didn't realize it at the time, I found my subject.

Soon I knew I had found someone who would help transform my understanding of improvisation. Let us summarize this zig-zagging path:

1. I had found a question: what is improvisation?
2. I had found the interdisciplinary discipline: performance studies;
3. I had found the methodology: performance autoethnography;
4. I had found a guiding set of research values: indigenous;
5. And now, I had found a person: Oliveros.

What next?

I contacted Pauline Oliveros. She was extremely gracious. And then she solved my problem for me. She invited me to come to Troy, New York to hear her record in studio with her band, *Triple Point*. Suddenly, I was nervous and excited. Anxiety sped through my body. I wondered, is this how anthropologists feel before they go to study an unfamiliar culture? Will I learn what Oliveros means by quantum improvisation?

So here we are. The following chapters are a record of my journey. There are three movements containing six sections in this journey.

The first section deals with why performance autoethnography and the discipline of performance studies suit the exploration of improvisation. Performance studies is a complex discipline, so these chapters are written with some necessary academic conventions.

The second section argues for the validity of a sociocultural perspective, and in particular the suitability of performance autoethnography as a research methodology. I aim to deepen the discussion around methodology by framing how improvisation works across fields. The second section also contextualizes indigenous theory and methods. I employ Shawn Wilson's formulation "indigenist" instead of "indigenous" (S. Wilson, personal communication, March 3, 2014).

To clarify, "indigenous" is often associated with culturally indigenous researchers and people. The term "indigenist" allows members of non-indigenous communities to employ indigenous theory and perspective, in much the same way we might discuss "feminist" theory and perspective without identifying as female (Wilson, 2007).

The following section turns toward a definition, background, and context around the term improvisation. Improvisation is a very broad and dynamic term, and I discuss the areas and fields where it has important impacts. I also try to give the reader a sense of a cross-field analysis of improvisation, delving into common questions and themes across the dominant fields.

Two movements follow, the actual autoethnography and as well as my recognitions, analysis, and conclusions. These movements employ different voices and writing styles. The aim is to convey a full sense of my experience, not only as a researcher, but as a writer, artist and fellow improviser. It is also important to say that the two movements are speculative and

experimental. I focus on the experience of listening to Oliveros and *Triple Point*. I also provide a detailed listening account of “*I of IV*,” Oliveros’s first recording.

Provisos

This dissertation presents many voices to the reader, and some might find it confusing at times. Scholarly discourse demands a particular form of argument, vocabulary, and rhetorical style or “voice.” In some ways, the conventions of the academic genre are unavoidable. But because improvisation belongs in many communities, I also need to present a voice such as the one I am using right now (Denzin, 2003). This voice must be clear, plainspoken and represent the voyage and experience of the researcher (Madison, 2005). I hope you find this voice acceptable, but perhaps that will not always be the case.

Finally, there is another voice in this dissertation. The highly subjective authorial voice used in the autoethnography deserves important consideration here. It is my voice but it contains a writerly personae, self-revealing and self-conscious (Conquergood, 1991). This voice will use informal language, and it aims to represent unedited and largely spontaneous thoughts and feelings (Madison, 2005; Denzin, 2003).

This voice is my own improvisation of self.

The combination without integration of distinct voices, a term borrowed from Bakhtin—polyphonic—will present different doors of entry into understanding the experience of the researcher engaged within community (Bakhtin, 1981).

I have striven to offer a reading experience that is not only clear, but also confused and

emotionally varied. And sometimes, I am awkwardly silent, for silence, too, is part of the researcher's experience (Madison, 2005). There is much that I don't know and don't realize that I don't know. Perhaps this kind of silence will never find a voice.

The reader will find me, in the spirit of indigenist perspectives, referring to my own Korean Canadian cultural awareness, to the felt specifics of a particular land and setting, and to the indigenous history of Troy. The indigenist perspective is particularly challenging for me personally; I am far from consistent in my reflections. I have not tried to excuse or revise this lack of consistency by filling in areas where I am lacking: I have decided to reveal the flickering state of my self-awareness to the reader in order to present an honest record of the journey and the journeyer.

This work begins and ends with improvisation which is an emergent, ambiguous, and ambivalence-inducing practice. I invite you to walk beside me. I beg your forgiveness for my mistakes.



Figure 1 -- Jonas Braasch setting up with Pauline Oliveros, and Doug van Nort

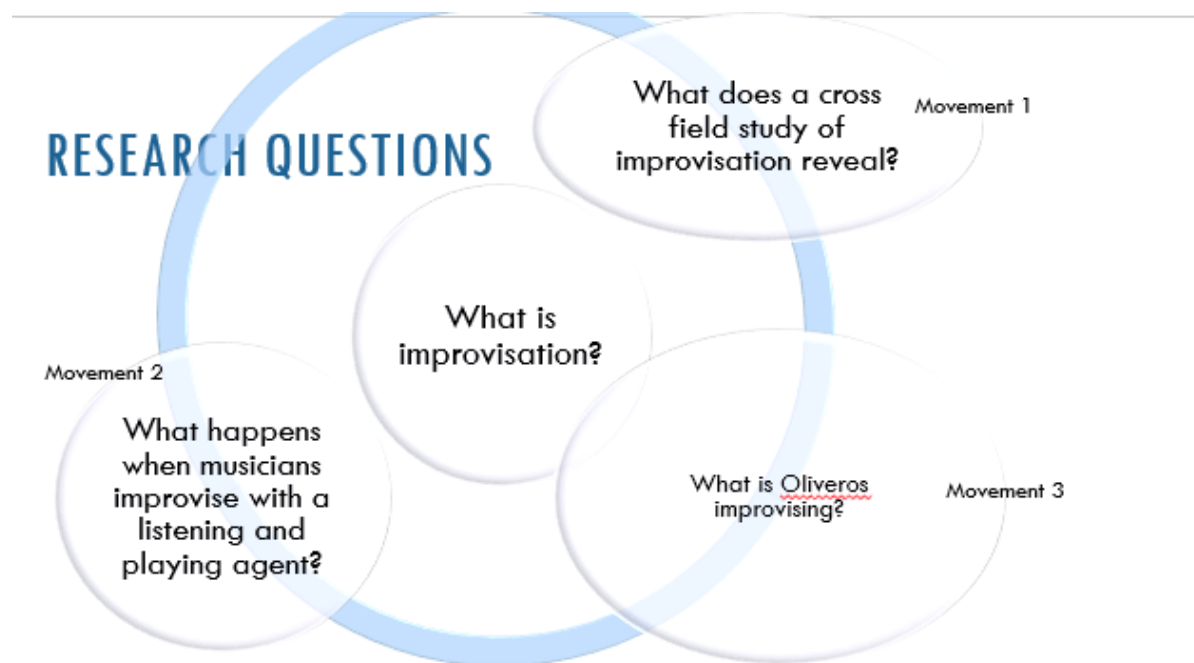


Figure 2 – Research Questions

Definition of Performance Autoethnography

The following section presents a definition of performance autoethnography. It also explains how this methodology was deployed in this research. We shall begin with a basic definition and explore how traditional academic writing differs from writing in performance autoethnography.

We begin by distinguishing autoethnography from ethnography and autobiography. Both autoethnography and ethnography are primarily a method of cultural inquiry. However, autoethnography utilizes the personal perspective of the researcher and the elements of creative expression characteristic of autobiography (Ellis, 2004). Therefore, autoethnography is ethnographic in its orientation while adopting content that is autobiographical and creative in

expression. Performance autoethnography is a particular version of cultural analysis that has its roots in the discipline of performance studies.

Below, three prominent experts in the field of autoethnography provide a current and very useful definition of term.

Autoethnography is an approach to research and writing that seeks to describe and systematically analyze personal experience in order to understand cultural experience. This approach challenges canonical ways of doing research and representing others and treats research as a political, socially-just and socially-conscious act. A researcher uses tenets of autobiography and ethnography to do and write autoethnography. Thus, as a method, autoethnography is both process and product. (Ellis, Adams, Bochner, 2011, pg 1)

The above definition delineates the challenge that autoethnography makes to canonical ways of performing research. The definition makes explicit the ethical dimension that distinguishes the purpose of this approach. The idea that autoethnography seeks socially just action is important and cannot be underemphasized. Also to be noted is how the statement problematizes the representation of the research subject. Autoethnography seeks to challenge the conventional difference between those who research and those that are researched.

Moreover, the definition ends with the statement that autoethnography is both a process and a product. This highlights an important dimension: the reflexivity of the research process. The research process seeks to explicitly represent the evolving interaction between the research and the subject, not to simply recount the production of research outcomes. This is in contrast to considering writing as a final polished product that appears complete at the end of the process. On the contrary, some writing is itself performative. According to Butler and others, performativity reverses conventional notions of identity formation. In simple terms, identity is

created when identity is performed. Butler's view, based upon the work of J.L. Austin and others, is that when words are uttered, the performance itself creates identity (Carlson, 2006).

So, then, how does autoethnography become a performance autoethnography? Standard autoethnography is basically a combination of two elements: ethnography and autobiography. Performance autoethnography arises from three basic elements.

Three Sources of Autoethnography

Autoethnography is defined by three sources of influence (Ellis, Adams, Bochner, 2011): ethnography, autobiography, and postmodernism. Postmodern ethnography occupies an interrogative stance akin to postmodern philosophy: the critique of empiricism, exposure of the cultural assumptions underpinning the sociocultural nature of knowledge and reality, and the self-conscious desire to offer an ethical response to its own questions (de Certeau, 1984; Lyotard, 1984). While postmodernism is a broad topic and difficult to define, for our purposes, I would like to focus on the impact of postmodernism on ethnography and autobiography as they relate directly to performance ethnography.

Postmodernism has impacted ethnography in many broad and specific ways, from questioning the ethics of research processes to excavating its own ideological underpinnings. Clifford Geertz and others used the phrase "thick description" and provided unique anthropological commentaries. However, Ghodsee (2013) presents the view that things changed in 1985 with the publication of James Clifford and George Marcus's *Writing Culture: The Poetics and Politics of Writing Ethnography*. This book can be described as postmodern because "it exposed the uncomfortably imperialistic nature of the anthropologist-informant relationship and the sticky ethical issues involved in literary renderings of non-Western cultures" (Ghodsee, 2013, para 3). It can be argued that performance autoethnography arises as a reaction to a critique made by

Non-Western cultures. In fact, anthropologists and other scholars are embracing a narrative turn in ethnography that is influenced, among other things, by performance studies.

Performance studies, as delineated by Turner, Schechner, and Conquergood for example, is grounded in the postmodern critique of objective, empirical, colonial, disembodied, and text-based thinking. Denzin (1998) states that this has given rise to the inclusion of narrative, subjectivity in general, and non-text based views of what constitutes evidence and research. Performance autoethnography appears, therefore, as a postmodern research tool, a process/product that problematizes the assumptions of traditional research that challenge the construction of knowledge.

According to Ghodsee (2013), “somewhere between ethnographic fiction and poetry and the social scientific conventions of the scholarly book or journal article, there is a middle ground for the experimental narrative ethnography (para 8).” In the section that follows I will explore this middle ground.

Performance Autoethnography

Now that I have delineated the difference between autoethnography and ethnography, what is the difference between ethnography and *performance* ethnography? It should be recognized that there are many variants of performance ethnography. In order to discuss these more nuanced differences, I first describe in broad terms the differences between ethnography and performance autoethnography.

The postmodern impact on the researcher’s self-reflexive critique of his or her own cultural situation is only the first step of performance autoethnography. The second step is the idea that performance of knowledge itself, as distinct from the conventional scholarly ethnography where the performance of the text is not illuminated as overtly self-reflexive, can be

accomplished in a self-reflexive and ethically conscious manner. This second step is perhaps a key distinction. The evolution of this kind of thinking, where scholarship (knowledge-making) is revealed as itself performative is important. The expression of scholarly knowledge, such as this dissertation, is embedded in the cultural and ideological residue of its sociocultural construction. The perspective of performance studies is caught up in a mirror of its own self-reflexive position. The figure below attempts to delineate the evolution of performance ethnography.

Evolving from standard ethnography and autobiography toward performance autoethnography

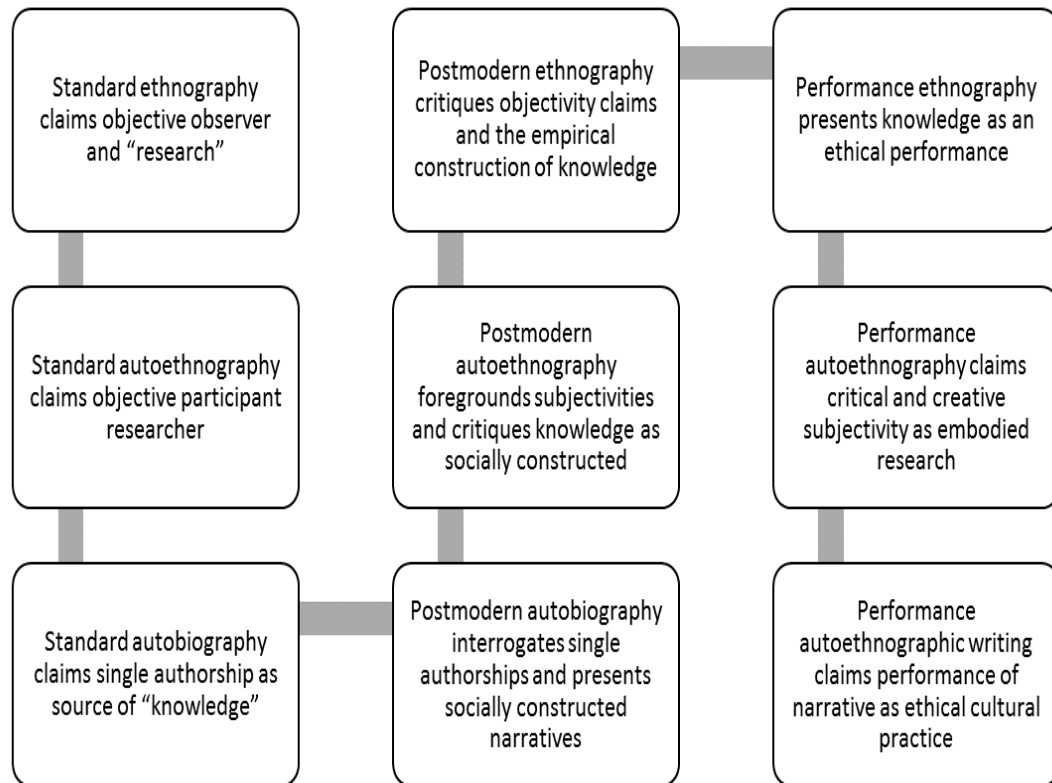


Figure 3 -- The evolution of performance autoethnography

The figure above focusses on the researcher. This focus is postmodern in character as the postmodern perspective brings the idea of authorship into question. Claims of the objective researcher-participant give way in performance ethnography to a form of writing that is more complex, collaborative, and subjective. The writing claims in performance autoethnography have a performative quality that is challenging to grasp. This is one of the reasons research of this type is considered experimental and has not been embraced by some in the academic community. The writing claims are clearly founded in a view that the research itself can be performative rather than fixed and preconceived.

Stages of Research

This research is best understood when divided into three movements with two sections in each. The first movement represents the early stages of autoethnography: a literature search on improvisation and a cross-field assemblage of improvisation with an attempt at creating a sociocultural perspective on improvisation. These are typical academic phases and are important in order to assemble and contextualize the academic roots of autoethnographic exploration. The next movements do not occur in a linear fashion but are described in the autoethnography during August 2012, a week of observing the recording process with Oliveros and her band *Triple Point*.

The methodology for autoethnography is divided into two parts. The first part is the data collection. The second part is the writing and analysis.

Data Collection

Performance autoethnography relies upon a wide variety of inputs that flow into the experience of the researcher. Data inputs include music recordings, formal interviews, informal lunches, conversations, observations, journal entries, photographs, and group conversations.

Writing and Analysis

The writing and analysis comes during the week in Troy but also at times before and after the experience. The performativity of the writing captures a sense of the connection and discovery that comes through the writing itself—writing which is positioned as both collecting data and

allowing knowledge to be generated through the writing process as a form of art-based research. The dimension of creative writing is utilized, but a great deal of cultural analysis is performed with the researcher and the researcher's relationships as the subject of reflection.

Perspectives on Improvisation

In this section I present a detailed performance-based perspective on improvisation. I will discuss how the methodology of performance autoethnography may be intertwined to form the methodological, ethical, and political context for this research. I will also contextualize these approaches by discussing the performances of Oliveros.

When reviewing the vast and dynamic body of knowledge concerning improvisation, I consider the desire to totalize or create grand narratives. I am driven by an undeniable desire for improvisation to be understood as social, cultural, and ethical knowledge that will positively impact our lives. The foundational work of performance scholars like Turner (1987), Schechner (1998), Conquergood (1991), Denzin (2003), and many others has helped me understand the impulses and desires behind a culture's art practices. The improvisatory experimental sound practice of Oliveros explores the sociocultural boundaries, membranes, and ambivalences of both improvisation and our attempts to understand improvisation.

So how might we define the encoded system behind the many practices and fields of improvisation?

Schechner (1985), one of the founders of performance studies, has coined the term "restored behavior." Restored behavior is a foundational concept in performance studies; it invites us to differentiate between the role and the actor and move beyond the theatrical metaphor of

performance toward articulating systems of encoded meaning. Schechter's concept asks how we might understand the purpose of improvisation, particularly the coded systems of ritual and culture. Is there anything "new" possible when performance is a restoration of prior behaviour? This is the question of hope behind the practice. This is the question of agency evoked after multiple variations and citations. The interrogation of improvisation as a re-articulation of symbolic systems has partially evoked the definition of improvisation proposed in this dissertation. Restored behaviour invites us to implicate improvisation as a symbolic frame for the constraints of human agency. This leads to a resounding question: how is improvisation bound up with the performance of agency?

Might improvisation implicated in the performance of agency?

Restored behaviour also invites Carlson (2004) to take us beyond theatricality, and by using performance art as an example make a claim concerning the authenticity of performance: "These include what it means to be postmodern, the question for a contemporary subjectivity and identity, the relation of art to structures of power, the varying challenges of gender, race, and ethnicity, to name some of the most visible" (p. 6). Performance studies enables an excavation of "restored behaviour," of the coded meanings that govern performance, adds Conquergood (1991). Schechner questions the systems of meaning behind our improvisations. Phelan (2004), in discussing Marina Abramovich's performance art, helps us not only to understand the significance of our everyday actions but also to glimpse the social and political patterns that inform identity, consciousness, and "liveness." Phelan sees in Abramovich's performance art an ephemerality that resists capitalism because her performances cannot be commoditized. More importantly, perhaps, she identifies in Abramovich a quality that also occurs in Oliveros and many other performance artists: "the possibility of both the actor and the spectator becoming transformed during the event's unfolding" (Phelan as cited in Bial, 2004, p.83).

It is entirely appropriate to employ the concept of “restored behaviour” to problematize the notion of progress and transformation as western and potentially colonizing concepts. Oliveros is careful not to make claims or guarantees regarding transformation, but Deep Listening includes the idea that active listening is a kind of performance. Listening, for Oliveros, is a performance of a perceptual activism, a sonic consciousness that may lead to choices, improvements, and potentially discoveries. Indeed, Oliveros has based her life’s work on the concept of listening as a kind of performed agency. At any moment, we can always find a way to listen and listen again. I have witnessed Oliveros, after each performance in the studio, request to hear the playback of the recording. She considers this as important to the process as the initial performance. The transformative assumptions in art and artists is a topic of which Oliveros remains keenly aware. For example, the deep and highly personal connection to the American performance art tradition (especially in the seventies) in Oliveros’s work and life is addressed in Mockus’s *Sounding Out: Pauline Oliveros and Lesbian Musicality* (2008). Oliveros and performance artist Linda Montano meet in 1974 and begin a life-long collaboration that blurs personal and professional boundaries as well as those between experimental art and music. Both artists refine, problematize, and contribute to an understanding of the term transformation. What is the nature of the hope, promise, and possibility provided by improvisation?

Oliveros is a relevant subject for performance studies which inherits and adapts the methodologies of studying cultures, particularly ethnography, and has especially influenced the humanities and social sciences (Denzin, 2003). Implicated and informed by anthropology as one of the most destructive of the disciplines insofar as it has historically objectified and mistreated its subjects, performance studies arises as a movement toward an experiential, ethical and embodied response to human experience (Conquergood, 1991). The boundaries between what is performance and what is not are continually being tested and this blurring “is one of the hallmarks of performance studies” (Bial, 2004, p.60).

For Conquergood and many others, one fundamental question that performance studies asks is an ethical one. How is this performance ethical? What are the ethics of improvisation? What do we discover about improvised performances of Oliveros and *Triple Point*? Is there an ethics to the concept and experience of sound? Oliveros invites us to ask these questions and asks, is there an ethics to listening? Oliveros asks us in her ninth decade: is the performance of what is advanced as “Deep Listening” a productive way to understand consciousness, creativity, and becoming? And if so, is improvisation an ethical response? And to what sort of question?

I am quietly disturbed by these questions.

In the light of late stage capitalism, the connections between improvisation and the global market are overt and seemingly simple to document. Improvisation can be viewed as a tool of capitalism. Improvisation is considered to be a tool for enhanced creativity and innovation; it is perhaps more. In a constantly changing economic situation in which the notion of consumption has also changed, improvisation is implicated in the consumption of creativity. We no longer just consume products and services; we consume creativity itself or the illusion that creativity is the elixir for the global success of capitalism (Sawyer, 2006). The elevation of innovation as currency for market success has helped monetize the global practices loosely called “improvisation” into a group of diverse acts that seems to have one core set of characteristics (Johnston, 2013) and one specific goal: profit.

Is this an ethical response?

I propose that Oliveros’s Deep Listening and quantum improvisation are at once an ethical response to this question posed by capitalism and humanity in general: they constitute a transformative theory and practice.

But what is improvisation beyond its use in the market? The core characteristics, once again my

totalizing impulses in partial abeyance here, are experienced as spontaneous, instinctual, mysterious, and irrational. This perception or reading of improvisation as unexplainable and spontaneous is potent; it is one of the dominant understandings of improvisation and possesses a long interdisciplinary lineage that corresponds with a cultural genealogy of human performance and creativity.

Like creativity, improvisation has been positioned and some would say marketed or branded in the West as evoking a sense of emancipatory democratic choice. The deceptively limited choices in the act of shopping, for example, rather than being seen as a kind of false freedom, is positioned by the market forces of capitalism as spontaneous and even liberating. The representation of consumption as a manifestation of choice, of free will, and an unlimited scope for its expression demonstrates hegemonic elements of capitalism on a large scale (Johnston, 2013). At the social level, the illusion of freedom is evoked by the act of choosing between products; here, the “identity” of improvisation is marketed as a kind of spontaneous product differentiation that mimics freedom; dominant culture is created by similar consumption patterns influenced by the forces of globo-capitalism that mimic, absorb, and utilize the creative, mysterious, and spontaneous.

At the same time, many see in improvisation the potential for an authentic, collective, and ethical resistance to capitalism (Nichols, 2012). Market forces create two very broad impulses. One impulse is the tendency for individuals who face pressure to innovate, to become more adept at improvisation in order to survive constant change. Workplaces desire workers who can not only deal with the unexpected, but also thrive and produce economic value in conditions of continual adaptation and competition (Peters, 2009). On the other hand, improvisation provides the tools for resistance as well as the transformative energy to create new models that will disrupt the systems which produce alienated and disempowered workers (Nichols, 2012). Improvisation, therefore, appears both contradictory and protean. Might Oliveros’s view of improvisation shed some understanding upon the contradictory nature of improvisation? Her

construction of quantum improvisation as ethical post-human consciousness with intelligent machines that listen and improvise may provide a valuable perspective.

What is the Image of Improvisation?

In order to further contextualize Oliveros's response to the ethical question, I begin with a different question. Why do we desire to improvise? Philosophers Deleuze and Guattari (1972) talk about desire as about being about a "lack." They critique this typical view of desire as metaphysical or Platonic in the concept of desire as a lack is founded on philosophical idealism. They argue that desire is a kind of machine that merely desires to consume another machine of desire unto itself (Deleuze & Guattari, 1972). This concept has both a mechanistic and sexual connotation. Desire, in a way, desires itself. The impact of such a concept on improvisation, particularly the kind espoused by Oliveros, is productive.

What do you desire, Pauline Oliveros?

Oliveros states a desire not to repeat herself. She states a desire to be interesting. She states a desire to resist the desire for typical modes of meaning generation as socialized in music such as conventional melody, tuning, rhythm, and structure. Oliveros states a desire not to be prepared, not to plan, not to expect. And, perhaps most of all, she states a desire, a constant desire, to listen deeply.

What do these desires tell us?

First of all, these desires inform an important ethical component of Oliveros's performance as an artist and human being. This ethical drive lends itself well to the inclusive cultural approach espoused in the discipline of performance studies. Like Oliveros, performance studies is both

captivated by and resistant of abstractions and high theory. Like Oliveros's work and life, it is a way of *being* in the world, a way of writing, hearing, and listening. Oliveros's focus upon listening is a political and ethical act because she considers perception as socioculturally constructed, not physiological. Oliveros offers us a critique of perception as a source of knowledge as well as a process for new discovery, and, as I will demonstrate through the concept of quantum improvisation, a way of performing "life" with the non-human.

We shall see in Oliveros's work a desire to perform listening that I argue is primarily ethical in nature. She is careful not to position listening as a comprehensive way of knowing, a master narrative, or a theory of all things. On the contrary, listening is positioned with ambivalence and humility as a process for awareness and becoming that requires agency, reflection, and practice. For Oliveros, desire is connected to eastern philosophy: she wants to desire nothing, but to be ready for anything, particularly the reframing of totalizing discourses concerning creative and political expression. Correspondingly, the desire of this dissertation is to perform an act of writing about Oliveros's desire for quantum improvisation, an exploration into new ways of becoming through Deep Listening and machine augmentation. This section of the dissertation desires to discuss Oliveros as thinker and improviser from the perspective of performance studies. Oliveros and performance studies appear to be an intriguing fit. It is appropriate, therefore, that Oliveros's contribution to the field of improvisation be presented as social art as well as social science--through the aesthetic, social, cultural, political and ethical lens of performance studies. The methodology of performance studies--performance autoethnography--will be discussed in the next section.

Ethics of Performance Autoethnography

This section concerns how performance autoethnography enters this research through the

ethical dimension of social transformation. Denzin and Lincoln (2005) make the agenda startlingly clear: “This is the agenda of this third edition, to show how scholars can use the discourses of qualitative research to help create and imagine a free democratic society” (p. x). In Madison’s *Critical Ethnography* (2005), she cites Bhabha’s (1994) use of the term performative to describe the “interruption of powerful master discourses” (p. 170) and describes the domain of performance as a “point of subversion.” Conquergood (1998) describes performance as not necessarily a transcendence but a transgression: “that force which crashes and breaks through sediment meanings and normative traditions and plunges us back into the voices of political struggle” (p. 32).

Indigenous scholar Grande (2005) expresses the need to stop “critical theorists” from continuing to advance western hegemonies of thought. Progress does not equate with change, indigenous scholars and activists protest. For example, my use of the word, evolve, implicates a Western desire for unrelenting human and technological progress rooted in the term’s connection to Darwin. Innovation, creativity, and improvisation do not always produce positive results. However, the universal need not be antithetical to the personal, posit postcolonial thinkers and activists (Wilson, 2008). Additionally, the thinkers and performers who align with an ethic of embodied experience, the performative, continually reference their bodies as a site of struggle (Conquergood, 1991).

Reason is not the sole and preferred mode of qualitative inquiry: this is the spirit which underlies performance ethnography as well as the nature and purpose of art. The body is the central site for agency: “borders bleed,” states Conquergood (1991). The body is not a problem to be solved either. The body is a condition of not knowing. The artist remains a central part of this social transformation, a way of refusal (Barba as cited in Bial, 2008). In other words, not knowing is an improvisation. Perhaps that is why improvised performance both frightens and fascinates us (as performers and as audience members). Moreover, indigenous scholars and artists claim embodied and lived experience as a source of knowledge.

The passage below suggests a return to the body that is intrinsic to ethnography and its discipline of performance studies:

Ethnography's distinctive research method, participant-observation fieldwork, privileges the body as a site of knowing. In contrast, most academic disciplines, following Augustine and the Church have constructed a Mind/Body hierarchy of knowledge corresponding to the Spirit/Flesh opposition so that mental abstractions and rational thought are taken as both epistemologically and morally superior to sensual experience, bodily sensations, and the passions. Indeed, the body and the flesh are linked with the irrational, unruly, and dangerous--certainly an inferior realm of experience to be controlled by the higher powers of reason and logic. Further, patriarchal constructions that align women with the body, and men with mental faculties, help keep the mind-body, reason-emotion, objective-subjective, as well as masculine-feminine hierarchies stable: Ethnography is an embodied practice; it an intensely sensuous way of knowing. The embodied researcher is the instrument. (Conquergood, 1991, p. 180)

Oliveros's body, her life, functions in performance as a critique of the ongoing capitalization of one's life. She challenges the reification of creative expression in the context of technology, commodification, and globalization. She exposes in my body, my questions and my desires a mirror of my own capitalization, careerist Other and postcolonial self. I hope to document my experience of the tension between her creative assets and her entrepreneur self that critics (McMullen, 2008) have articulated. We shall witness aspects of her self-critique, her strategies of resistance, how her sense of her "co-performative," the enfleshment (McLaren, 1993) of her being is itself an imperfect yet life-long critique of self-bound consciousness.

I find that my very formation implicates the other in me, that my own foreignness to myself is, paradoxically, the source of my ethical connection with others. (Butler, 2004, p.46)

Oliveros embraces and calls into question what Butler (2004, p.46) terms the “other in me.” Oliveros hears in Deep Listening, in the practice of sonic consciousness, a source of connection to all forms of others (human, non-human, and inanimate). The foundational first stage of Deep Listening can be understood as a project that listens to “my own foreignness to myself” (Butler, 2004, p. 26). In Oliveros there is no performative self-mastery, the kind expressed by the socio-politics of expert performance, the kind mythologized by Gladwell in Ericsson’s 10,000 hours of practice rule (Ericsson, 1990). Even the entrepreneurial self, the self-defining and self-creating “expert” seems subjugated to some other ethic. Oliveros, on the contrary, improvises, plays, and composes with non-experts. She does not care about what we might typically call expert levels of performance. Her notion of warming up demonstrates this clearly. Oliveros makes sure her accordion is plugged in, her pedals function, and that her monitors are at the right levels. That is it. She goes as far as to joke with me that not knowing and not practicing her instrument is an asset. She calls into question performative self-mastery, and recalls the kind of primitivism we see in Expressionism. This is in profound contrast to the western jazz tradition where improvisation is an expertise that takes decades of mastery with novice musicians feeling unworthy of improvising with experts. Not once during my time with her did I hear Oliveros playing a scale or even a recognizable melody. And when I asked, she politely ignored me.

Oliveros disrupts the dichotomy of inside/outside by locating the Other as an intersubjective third space. This is expressed phenomenologically as neither the inside nor the outside, but somehow perceived as both, a third space beyond the dichotomies of cognitive abstractions. In Foucault’s words, Deep Listening is perhaps Oliveros’s “counter-discourse” where improvisation is a result of the interplay between competing discourses. But Oliveros goes beyond dichotomies. She is not interested in geography or terrain but in echo, reverberation, and

sounding out. Building upon Butler's opaque self, I suggest that the self in Oliveros is that which *becomes* itself through disappearance (Phelan, 1993). Oliveros uses her "self" to listen to the universe so that this human "self" can disappear (and yet still be heard). The paradoxical nature of Phelan's claim is perhaps one of the reasons Oliveros uses the terms quantum listening and quantum improvisation: these concepts rise above dichotomous thinking and occupy a dimension that includes machine augmentation to better listen. One cannot help but think Oliveros's early fascination with combination or ghost notes that are not available to the human ear. Or, put in another way that enunciates a kinship with postcolonial theory, Deep Listening is the revolutionary way that comes from a non-territorial emergent third space (Bhabha, 2004) of coalition, co-existence, and co-emergence. I use the term non-territorial space because the notion of depth in Deep Listening disrupts the geographical landscape of visual and spatial metaphors. Depth is a concept that works well with listening without necessarily being bound by two dimensional categories.

Coalition, it must be said, is part of the ethic of decolonization that Deep Listening not only enacts but forms into, I shall argue, a third dimension of performance pedagogy. What tools will create us anew? The master's tools will never dismantle the master's house, states the postcolonial voice. What kind of tool is Deep Listening? Might we deconstruct its ethical and political underpinnings despite its growing location in the rational sphere of emergence science and neuroscience?

Quantum improvisation is the ethical practice of transforming consciousness achieved through Deep Listening augmentation with listening, non-human machines. However, quantum improvisation, we may realize, belongs not just to the human self. Quantum improvisation through Deep Listening may be an empirical organizing principle of the co-creating universe, a transhuman process, one which may function against the master *human* discourse and disrupt time itself (Bakhtin, 1981). Conquergood frames dialogue as performance and contends that the aim of dialogical performance is to bring self and Other together so they may question,

debate, and challenge one another: “Dialogue is both difference and unity, both agreement and disagreement, both a separation and a coming together” (Madison, 2005, p. 9).

What kind of dialogue is Deep Listening? I offer a proposal that this relates to our discussion around ethics. Perhaps quantum improvisation is a dialogue concerning a posthuman theory of consciousness, a theory containing both a coming together and separating of human and nonhuman elements.

Bakhtin (1984) writes that the communion with the Other brings the self more fully into being: “the most important acts constituting self-consciousness are determined by a relationship toward another consciousness (toward a thou). Oliveros (2010) states expansively, “Computers may push us or teach us about the mind and facilitate a quantum leap into unity of consciousness” (p. 56). Oliveros asks, “Is it co-creation between consciousnesses? Is the sound disappearing or am I disappearing?” (90). Phelan’s voice is echoed in Oliveros: the self appears through disappearance. Sound is a disappearance of sorts; it is a return to the body. What is the sound of listening? Sonic consciousness resists the colonialism of the visual, the autocracy of seeing:

Sound’s ephemeral invisibility obstructs critical engagement, while the apparent stability of the image invites criticism. Vision by its very nature assumes a distance from the object, which it receives in its monumentality. Seeing always happen in a meta-position, away from the seen, however close. Seeing is believing. The visual ‘gap’ nourishes the idea of structural certainty and the notion that we can truly understand things, give them names, and define ourselves in relations to those names as stable subjects, as identities. (Voegelin, 2010, p. xii)

As described by practitioners and scholars of decolonizing methods that embrace indigenous,

postcolonial, and counter discourses, performance ethnography is a discourse that has the potential to disrupt the master narrative that makes slaves out of researchers and double-slaves of the objects of research. On the contrary, Oliveros's improvised sonic consciousness, quantum improvisation through Deep Listening, expresses an interesting ethic, a social improvisation that is dialogic but much more than empathic of social co-existence. In a sense, quantum improvisation is an expansive transhuman theory that embraces social/machine polyphony (and is inclusive of emergence science). This study examines the notion of quantum improvisation through Oliveros and her band *Triple Point* as they perform with an artificial intelligent computer agent that listens and improvises in real time.

The following figure summarizes the research process. It is important to not only articulate each stage in the process to make the connection from each point to next. Step 1 was necessary to survey the field. The cross-field analysis revealed the need to utilize the methodology of performance studies. This led me to step 2, performance ethnography and autoethnography as ways of studying and exploring improvisation in embodied performative manner beyond the literature process. It created the necessity of field research which signalled third step the understanding of indigenous research methodologies which provided an important step in understanding the implications and biases of ethnography and field research. Finally, what connects step 3 to step 4? Creative writing is used a creative tool to augment performance ethnography. I situate creative writing as a vital research tool. It enabled me to enact improvisation in addition it deepened, expanded, and diversified the research methodology.



Figure 4 – The Research Process

THE FIELDS OF IMPROVISATION

Cross-field Approach to Improvisation

This section traverses seemingly unconnected fields such as art therapy, cell biology, cognitive psychology, management, non-western music, sport, film, software, and dance, where notable contributions to a specific theory or pedagogy of improvisation have been realized. It does not aim to be a broad survey of the fields of improvisation, although exposure to a wide spectrum of fields is necessary to develop some of its claims. It may be not coincidental that many of these areas are also implicated in complexity theory and perhaps suggest the suitability of improvisation as a feature to be considered within the science of complexity. As a preview of the final section of this study, the authors of *Complex Adaptive Systems: An Introduction to Computational Models of Social Life* state the following:

“Ultimately the study of complex systems illuminates the interest in between the usual scientific boundaries. It is the interest in between various fields, like biology and economics and physics and computer science. Problems like organization, adaptations, and robustness transcend all of these fields. For example, issues of organization arise when biologists think about how cells form, economics study the origins of firms, physicists look at how atoms align, and computer scientists form networks of machines. (Miller & Page, 2007, p. 225)

Like the science of emergence, improvisation has become a darling of the popular culture and has received rapidly advancing scholarly interest in the human sciences (humanities, sciences, and social sciences). Unfortunately, this creates a gap between useful, human, and provocative metaphors and technical though perhaps not generalizable context-based empirical knowledge. It also creates a growing recognition concerning meta-narratives, the ideological ways in which

a topic is shaped by the way we think about it. The following figure summarizes and organizes the areas of improvisation.

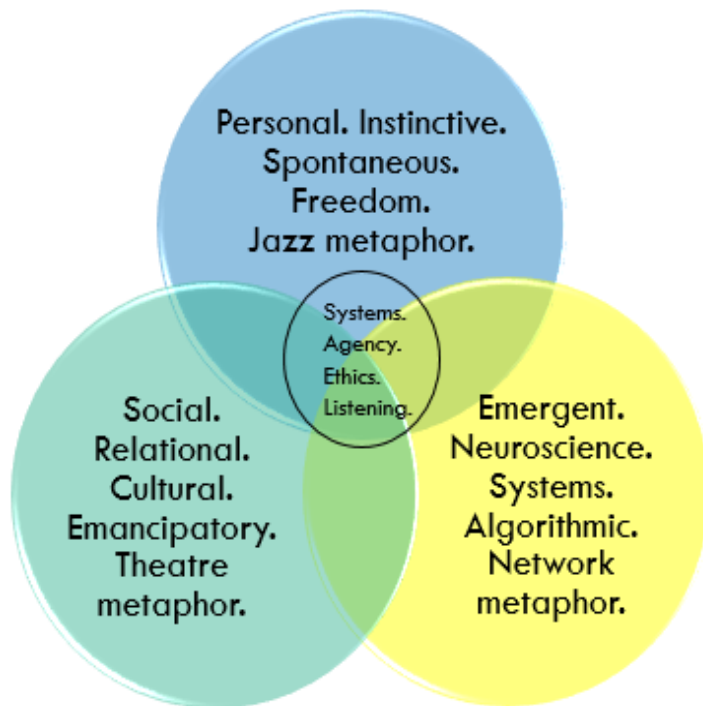


Figure 5 -- Three Areas of Improvisation

Performativity

Elizabeth Bell (2008) suggests that performativity maintains that identity, especially in terms of gender, desire, race, ethnicity, and abilities, is a complex matrix of normative boundaries. Bell considers performativity a theory of identity constitution, a strategy for critiquing performances, and a political practice. The metanarrative of improvisation might be that it is a polyphonic site of embodied performance, sites where culture, agency, praxis, subjectivity, and knowledge intersect.

Like performance, improvisation privileges the experiential, participatory, and epistemological (Conquergood, 1998, p. 27). This awareness makes improvisation a site for ideologically driven improvisation: "The apparent freedom of the improviser--the risk taking and spectacle of spontaneity--is rarely the inspired abandonment that it appears to be promoted as." Moreover, scholars of non-Western musical traditions note that improvisation has been not only suggestive of spontaneity and creativity, but also with the primitive, non-western, preliterate, and unsophisticated.

Should we reconcile these differences or might these differences mean something in their diversity? In the words of performance theorist Marvin Carlson (1996), "I feel a new uneasiness." Joseph Roach calls performance studies an antidiscipline (1995) because there seems to be no better example of conflict, ambiguity, disruption, and challenge than defining performance studies especially within the context of western colonization and the globalization of knowledge. The methodology of performance is a post-methodology for a post-discipline, to expand on Roach (1995). Fabian argues that the West imagines spatially--culture as a map. However, the world, according to Oliveros, is not to be grasped as a picture but through Deep Listening. The visual is pornographic, states Jameson (1991). According to McKenzie (2001), performance will be to the 20th and 21st century what discipline was to the 18th and 19th--an onto-historical formation of power and knowledge.

Polyphonic Site

An inquiry into improvisation across many fields reveals it to be a polyphonic concept (Bakhtin, 1981) that exposes the typical dualities and paradigms uncovered in any pursuit of knowledge. More importantly, the study of the fields of improvisation reveals emerging patterns of

harmonization in previously incompatible paradigms. Students of improvisation will discover in the body of research implicit assumptions that generate productive yet perhaps destructive approaches: mind/body, east/west, male/female, primitive/civilized, order/chaos, and artistic/scientific, to name but a few. A glancing meta-analysis can easily reveal a Nietzschean map with Dionysian (or irrational) and Apollonian (or rational) polarities. A polyphonic perspective allows us, in Bakhtin's words (1981), to construct meaning from a dialogic interaction between different ideological perspectives: "It is constructed not as the whole of a single consciousness, absorbing other consciousness as objectives into itself, but as a whole formed by the interaction of several consciousness, none of which entirely becomes an object for the other" (p. 18).

Bakhtin's multivoiced theory impacts the researcher whose task it is to see the "sum total" of consciousness and self-consciousness in a scholarly and performative overview. The term polyphonic is opposed to the term monologic which attempts to synthesize a single voice and world-view. Thus, Bakhtin's theory may provide a rehearsal of co-existence, a productive way of viewing the multiplicity of perspectives across diverse and evolving domains.

Reflexivity

Here we require reflexive statements concerning improvisation's ideological and methodological stance. Even though improvisation contains a number of voices from many different sources, my aim is to hear the sound across the disciplines. For example, maps are useful and often much-needed guides; however, reading a map or interpreting a score or text is not a substitute for experience itself. This is one of the primary lessons of performance studies, a blend of anthropology and theatre with a methodological turn toward embodied experience. While I employ Bakhtin's concept of polyphony to describe this approach, I also declare a

constructivist and postmodern ethos that distinguishes qualitative and quantitative approaches. Additionally, I approach improvisation with two orientations: first, my approach contains a pedagogical (Freire, 2003; McLaren, 1993; Giroux, 2000) philosophy infused with the ethic of social transformation (Conquergood, 1995; Denzin, 2003, Schechner, 1977); second, improvisation is glimpsed through the lens of performance, an enacted “here and now” approach to human behaviour that has its roots in phenomenology and embodied consciousness (Park-Fuller, 2002).

The Sociocultural Referent

I suggest that a cross-field analysis of improvisation studies reveals that improvisatory traditions concern freedom and restraint within an implicit structure. In this section, I develop Pressing’s concept of a referent (1984) in a novel way to distinguish and connect previously incompatible approaches: “Referent, a set of cognitive perceptual or emotional structures (constraints) that guide and aid the production of musical materials” J. Pressing (1984).

Nearly all scholarly attempts at an overview of improvisation suggest that improvisation, although extremely important, has not received enough scholarly attention (Peters, 2009). A definition of improvisation would seem a likely place for fruitful research. However, no comprehensive cross-field definition exists that rises above the pervasive jazz definition of “composing while performing” (Pressing, 1984; Moorman and Minor, 1998; Seddon 2005; Weick, 1998; Levitin and Tirovolas, 2009). Each of three prominent areas (art, music, theatre) reviewed lacks a precise meta-definition of the term. More importantly, there has been little effort to question the absence of a definition despite the significant and growing impact of neuroscience, cell biology, and computer science upon this field of knowledge (Berkowitz, 2010; Levitin and Turivikas, 2009; Limb and Braun, 2008))

How could this be? Some theorists (Moorman and Miner, 1998) have attempted to define what we might term improvisation by drawing upon other disciplines. Others have done fruitful research in attempting to define its parameters across areas as diverse as theatre (Johnstone, 1987), music (Berliner 1994), performance (Sawyer, 1992), therapy (Keeney, 1991) psychology (Pressing 1984), medical training (Haidet, 2007), learning (Borko and Livingston, 1989), and product development (Miner, Bassoff, Moorman 2001.)

One of the most cited and influential researchers on creativity, Mihaly Csíkszentmihályi, in a key study on improvisation (Bengtsson, Csíkszentmihályi, Ullen, 2007), fails to question the research team's definitional assumptions around the term. However, upon further examination, there appears to be an implicit operational definition of the term that centres on a jazz-dominated "referent" that features a rather narrow and perhaps stereotypical kind of "pure unconscious creativity." We must ask if the implicit jazz definition deserves further scrutiny before it is accepted as a stand-in for improvisation.

The Definition of Improvisation in Art

Cultural historian Daniel Belgrad (1998) suggests in *The Culture of Spontaneity: Improvisation and the Arts*, that the movement surrounding artistic improvisation is a complicated story. It is fractured and loosely connected, but can be seen as a common cultural project. The lack of scholarly attention is indirectly attributed to this movement's alternative metaphysics, a set of views that is in opposition to corporate liberalism, market rationality, and scientific objectivity. Belgrad does not openly state that these might be reasons why improvisation has not been defined by scholars, but he does write convincingly that artistic improvisation possesses within it "ideologically inadmissible" possibilities. On the other hand, Belgrad links the success of

postwar artists to the struggle of ethnic Americans to reach cultural authority. This success is paralleled in academia. In the avant-garde art world today, the emergence of performance art is strongly connected to the culture of spontaneity.

The Definition of Improvisation in Music

Ethnomusicologist Bruno Nettle, the editor of the most recent volume on the cross-cultural world of musical improvisation, considers musical improvisation a “neglected art” even within the field of musicology. He suggests that the neglect may stem from middle-class Western academic departments concerned primarily with the study and advocacy of Western art music. According to Nettle, jazz, the music of non-Western cultures, folk music, and all music in oral traditions may be subject to class and race stereotypes. The improviser, concludes Nettle, is associated mainly with cultural outsiders. Another reason, he suggests, is that the field of musicology has focused less on process and composition than on product. Ethnomusicologists are paying much more attention to improvisation today. For example, there is an international refereed journal published quarterly at the University of Guelph and funded nationally by the Social Sciences and Humanities Research Council of Canada, SHRC, called *Critical Studies in Improvisation*. Its mandate focuses on improvisation as a site for the analysis of social practices and investigates the sociopolitical and cultural functions of improvisational practices. This research community explores musical improvisation as a model for social change and is defining a new field of interdisciplinary research to shape political, cultural, and ethical dialogue and action.

The Definition of Improvisation in Theatre

Keith Johnstone, author of *Impro: Improvisation and the Theatre*, one of the influential primers on how to improvise for the theatre, points explicitly at the failure of education to engage with creativity and find a place of belonging within English society. He does not ask why improvisation is not defined in the scholarship because he is less a scholar than practitioner. Johnstone believes theatrical improvisation to be a sociocultural phenomenon emerging from avant-garde theatre and the postmodern cultural milieu; however, since the book's publication, theatrical improvisation has dominated the professional training of actors and impacted the field of dramatic therapy. The focus on the practitioner in both fields may be a chief reason improvisation has not received the definitional attention of theatre scholars. Currently, there remains a significant gap between the professional training of actors and the academic study of theatre in universities, but there are signs, for example the advent of performance studies, that this may be changing. One of the interesting dimensions of improvisational theatre training and one that does not attract scholarly attention from the humanities is the fact that improvisation is a self-sustaining economic zone or industry onto itself with thousands of workshops, seminars, and consulting practices that seem unconnected to theatre scholars and is currently more associated with scholars working in management domains who have tended to borrow heavily from the jazz metaphor (Weick, 1989).

Lack of Cross-field Definition of Improvisation

Perhaps improvisation requires no definition, as it is obvious to all. Of course, this response seems to assume that the diverse, cross-cultural, and cross-field approaches require no examination because they can be reduced to one obvious meaning. Jacques Derrida, who once

performed on stage to boos with jazz great Ornette Coleman (Landgraf, 2010), considers improvisation a theoretical impossibility given his concept of iterability in which he generalizes that all phenomena is a copy of a copy -- rendering improvisation impossible in such a system (Derrida, 1977). Judith Butler takes this view forward when she derives her theory of gender formation in which she assigns the term improvisation to describe the limited agency available in a world where social forces dominate identity construction (Butler, 1990). Both views create understandable confusion around the term improvisation--confusion which appears to combine stereotypical or mythical views with conceptually challenging postmodern views connected to the limited possibility of agency.

Perhaps the meaning of improvisation is just not very specific, so a definition is not possible given its many parameters and uses. This view ironically suggests the necessity of an overview as the term is widely used in computational theory, culture theory, evolution theory, microbiology and other empirical areas where the meaning within the context of a scientific discourse should be specific. The argument that improvisation means different things in different domains is also dominated by the underlying influence of "improvisation myths," which are closely linked to idealized Romantic concepts of creativity and the artist as a "divinely mad" genius. Improvisation, like creativity, has been linked to concepts of genius, individualism, and irrationality, and to the view that the idea is more important the practice or execution of the idea (Sawyer, 2006).

Perhaps researchers are distracted by using improvisation for their own purposes and haven't found the opportunity to create a definition through a review of the literature. For example, various PhD theses on subjects as diverse as improvisation on computer information systems and evolving communities of presence generally choose to cite studies that suit their own purposes (von Emmel, 2001a). The focus on particular areas where improvisation is important may be a plausible reason for the lack of broad theoretical focus. Perhaps a more provocative way of stating this is that some interdisciplinary topics have received relatively little attention in the academy compared to disciplinary topics. Sawyer (2006) points to the lack of funding

creativity has received compared to other topics; this point may be generalizable to improvisation.

Perhaps a definition requires a working theory; there appears to be no theory. The dominant theory is that improvisation requires access to the unconscious; however, the term unconscious itself is also problematic for philosophers and psychologists alike. Like creativity studies, we can divide improvisation into two camps: Big 'I' improv and small 'i' improv. Big 'I' improv refers to jazz and theatre domains which have been influenced by the Western myths of genius, individuality, and the singularity of the idea. Small 'i' domains include those forms not considered related to art and concepts that focus less on theory and more on practice. For example, scholars and practitioners are fond of stating that conversation is the "first" improvisation. However, big 'I' improv dominates the average person's conception, particularly in the context of theatrical practice promulgated by the advent of the once popular television program *Whose Line is it Anyway*. The lack of attention to the execution or performance of improvisation has limited the study of improvisation (Sawyer, 2006).

Perhaps one of the strongest reasons there is no comprehensive definition is the problem of postmodern agency suggested by both Butler and Derrida. If agency is either impossible (Derrida) or a paradoxically made possible by subjectification (Butler), then what explains the practitioner's view of improvisation as having enormous performative credibility as essentially "the frontier of the new?" In contrast to the idealism inherent in the romantic myth of the lone, genius improviser, practitioners of a particular field, whether it be in art, music, or drama, have been ignored until recently by most theoreticians (Landgraf, 2010), particularly the discoveries by the artists themselves about the role of audience, group creativity, and connection to non-artistic domains.

Perhaps the final reason for the absence of a definition is that performance is ephemeral, and ephemeral processes have been traditionally difficult to study. This is related to the challenge

of studying performance itself and the relative ease in which texts can be theorized and criticized. The metaphor that life is a text to be explicated is one that has preoccupied Western humanities and social sciences. Improvisation is an ephemeral performed practice, mostly unrecorded, and often the domain of groups, and these groups are often uninterested in theory that does not take into account the lived, embodied, and situated process of performance. Scholars until very recently did not possess the methodologies to study performance (Schechner, 2006). Performance studies, a blend of anthropology and theatre, and a relatively recent movement may be a productive approach to studying the ephemera of improvisation (Park-Fuller, 2002).

So where does this leave us? I suggest that a cross-functional and cross-field overview of the term improvisation could be a mammoth but significant contribution. The reasons why such an overview has not been accomplished underscores the need for a polyphonic approach to improvisation, a sociocultural approach that is inclusive, meta-critical, and ideologically explicit.

Other Places Where Improvisation is Evolving

Software Development

Software development is a complex practice that involves thousands of developers and often millions of users. The traditional manner of developing a solution and then asking users for feedback is no longer a standard methodology. Developers have quickly realized that users need to be part of the process. They have also realized that users can either help the process or hinder it. Thus, developers created improvised prototypes that were released quickly and then revised and adapted (Beck *et al.*, 2001). This process contrasts with the traditional approach

which involved huge planning processes and expensive, time-consuming debugging or revision processes. The new improvised prototype models have been called rapid, lean, and agile processes that allowed for more cost-efficient and time-efficient development. The early collaboration with the user is a hallmark for agile software development which has also been referred as Lean development with some differences..

Not only have computer scientists embraced improvised prototypes as one of the best ways to develop software, but so have engineers who were dealing with ways to improvise automobile and other highly automated and industrial processes. Lean manufacturing (Womack & Jones, 2003) as it is known today is a systematic way of eliminating waste and inefficiency in manufacturing environments; however, the process is highly reliant upon improvised collaborative work teams trying to create on-the-fly prototypes to solve problems and improvised efficiencies. Lean is not merely a technical practice, but it also a cultural practice that seeks to engage field workers in decision-making and problem-solving and stands in contrast to hierarchical management models where field workers are often disengaged from creative problem-solving (Womack & Jones, 2003). Lean also has the potential to move beyond a cultural influence and enter an ideological level of change. Lean workers are often encouraged to think like owners and to view their work as collaborative under the ethos of partnership. While some are skeptical of this trend, the management literature is filled with case studies of employee engagement and creative entrepreneurship (Senge, 1990).

Biological Evolution and Computer Modelling

The software industry is not the only example of improvisatory practice becoming cultural and potentially ideological. A significant transformation has occurred in mathematical and computer-based modelling, where improvisation is at the heart of modelling human and

biological evolution using complexity theory, chaos theory, and systems theory. The ideological impact here is significant as mathematicians have argued that improvisation is not an irrational process, but essentially a rational but implicit one that is evidenced in both human problem-solving and in nature's way of evolving. Evolutionary adaption plays a prominent role in how scientists see improvisation as a new way in which to view complex phenomena (Gabora, 2010). This view of improvisation can be compared to the role of chaos and chance theory in computer modelling and simulation. Improvisation, when evaluated by computational scientists, is increasingly seen as not just a metaphor for spontaneous creation or self-organized systems, but as a legitimate and productive theory for evolution. Heinz von Foerster, the founder of cybernetics, the study of systems theory, suggests that order and disorder are human constructions. Von Foerster argues that the "incalculable" can indeed be calculated, that essentially order is not the opposite of disorder: "calculation in von Foerster is not seen as antithetical to the incalculable, but rather as the means (i.e. as a possible language) of producing incalculability" (Langraf, 2010, p. 31).

Improvisation might be one mathematical tool to test the emerging theory that cultural evolution and biological evolution involve similar processes. When culture is seen as improvised, and improvisation seen as essentially rational, we begin to understand why artists, scientists and professionals are interested in improvisation for its instrumental, cultural, ideological, and evolutionary impacts. The professional and theoretical rapprochement between management theorists and theatrical improvisers is therefore an interesting but not surprising event. A good example of this is the work of theoretical biologist Stuart Kauffman who traverses both biological and business fields in his pursuit to apply complexity theories to fields as diverse as the insurance industry, supply management, cancer treatment, theology, and evolutionary theory:

But perhaps the most stunning application of complexity theory and emergent behavior is Kauffman's attempt to explain the origin of life on Earth. Long convinced that Darwin's theory of natural selection does not fully account for the patterns of order and diversity

in the natural world, Kauffman designed an elaborate computer simulation to demonstrate that individual enzymes—protein molecules—could organize themselves into a self-reproducing collection of enzymes. (MacKenzie & Tzar, 2002, p.59)

Theatre and Leadership

Theatrical improvisation, with its emphasis on practical creativity, has a long history of collaboration with industry. Harvard professors in business innovation are teaming with stand-up comedians and drama teachers to train workers to be more free, imaginative, and resourceful. This alliance certainly has practical and cultural ramifications, but it is the ideological impact that is the most interesting. I suggest that improvisation has an ideological impact when it changes the worldviews of its participants. The globalized economic structure is certainly not going to suddenly adopt a new attitude toward profit and loss, but improvisation may have an impact on how organizations view the creative contributions of its workers. Defining workers as knowledge or imagination workers begins to lay the groundwork for a flattening of traditional structures, with creativity and imagination flowing better in a democratic, agile, and open work structure. The ideology that changes in this environment is reflected in structural changes at the organizational level as well as changes in the kinds of leadership required. Many organizational leaders in business, non-profit, and education have been calling for new structures to better capitalize on and optimize human creativity (Senge et al, 2005)

Neuroscience

Improvisation may shift practice, culture, ideology, and evolution, and it might also change the way the brain organizes itself, according to those studying neuron mirror and brain plasticity. Brain plasticity refers to the ability of the brain to heal and change itself. A variety of studies have demonstrated the remarkable ability of the brain to make adaptations. A recent study suggests that as we get older, we are better able to access the potential of both sides of the brain working together. When the musician Sting's brain is imaged through functional magnetic imaging fmri (Levitin, 2009) the scan shows activation in both sides of the brain beyond that of the typical person. Recent studies into brain plasticity suggest that, far from atrophying as we grow older or losing brain cells, age brings with it an enormous capability to combine the left and right hemispheres (Pink, 2005). Mirroring is the emergent theory that the brain can learn from watching a behaviour in the same way that it learns from doing the behaviour (Rizzolatti *et al.*, 2004). These studies suggest that improvisation may be one method of enhancing the brain's ability to be more creative and productive. Improvisation can change the structure of the brain.

Improvisation and Task Performance

Task performance, especially as explored by psychologists such as K. Anders Ericsson (2006) who specialize in studying and measuring professional expertise, will also be considered from the perspective of improvisation. The acquisition of expert performance through "deliberate practice" remains one of the breakthroughs in understanding the role of creativity in the development of expertise. I will ask whether there is any useful connection between the empirical evidence regarding those working in the fields of professional expertise and the non-empirical claims made by artists. However, improvisation is not only to be seen through the

practitioner's view, as important as that is, but also through the meta-critical lens of historic and socio-cultural analysis. Thus, this paper attempts to do more than simply identify and catalogue various pockets of practice where improvisation is a critical activity. Contextualizing improvisation reveals it as a defining cultural, artistic, and political movement that is connected with “performed” values that oscillate between opposing and reinforcing the dominant cultural and economic modes produced by late-century capitalism and liberal humanism.

Review of New Spaces in Improvisation Studies

Musical creativity vis-a-vis improvisation may be a result of the combination of intentional, internally generated self-expression (MPFC-mediated) with the suspension of self-monitoring and related processes (LOFC- and DLPFC-mediated) that typically regulate conscious control of goal-directed, predictable, or planned actions. (Limb & Braun, 2008, p. 4-5)

Biologists interested in evolutionary adaption use the term improvisation to describe the evolution of life. Moreover, claims have been made that suggest that “evolution itself can be considered improvisatory” (Berkowitz, 2010) and essentially a source of the “new” in nature. Neurobiologists have suggested that cell variation is a form of improvisation, a strategy by which life at the cellular level emerges (Berkowitz, 2010). Scholars in linguistics, cognition, and musicology have suggested that we acquire music improvisation skill in the same way we acquire language proficiency (Peters, 2009). If music is acquired in the same ways language is acquired, then what does this say about the nature of consciousness? Here, discoveries have pointed computer scientists to creating robots that possess the ability to musically improvise. Whether in the social sciences, humanities, or sciences—the interest in improvisation suggests the need for a cross-field examination. Perhaps now it is appropriate to ask why such a study has not already been published. The answer might be obvious: improvisation is a contested term, a term that has polysemous and contradictory meanings.

The growing body of literature on expert performance as demonstrated by *The Cambridge Handbook of Expertise and Expert Performance* (2006) tends to focus on objective measures of performance without necessarily critiquing how performance itself is constructed as independent of ideological values. Performance itself is a contested term which is deeply implicated, not only in its performative sense, (a fuller understanding of the embodied and ideological construction of the cultural) but also in the sense that the term performance,

according to performance scholars such as Jon McKenzie in *Perform or Else* (2001), has become widely accepted as a central concept in how modern organization reward and incentivize behaviour. Performance Studies has its historical roots in anthropology and theatre while Professional Performance has its roots in psychology and management. These differences do not suggest a need to prove one approach right or wrong. In fact, I hope to show the compatibility of seemingly incompatible approaches.

Empirical researchers have creatively developed authentic task assessment for chess players, surgeons, and many other professionals that are extremely useful for creating a common definition for what we term expertise (Ericsson, 2006). What we learn from this body of literature is that not all expertise levels can be quantified. We know, for example, that training and years of experience are not related to income (Ericsson, 2006). Studies involving computer scientists and others demonstrate that in general, most professionals, even those acclaimed socially by their peers, are not, in fact, “objectively verifiable” experts (Ericsson, 2006). Expertise as it is currently theorized comes less from talent and innate factors than from rigorous coaching, years of deliberate practice, and conscious assessment and feedback (Ericsson, 2006). In general, the empirical research into expertise is extremely valuable with respect to a better understanding of the role improvisation can play in automated, implicit or what psychologists call procedural memory. Eagleman (2011) points out that one does not need to be consciously aware to perform sophisticated motor acts. Examples include the way we manage to anticipate the telephone before it rings, to the way we evade the snapping tree limb without seeing it, to how we do things perfectly, for the first time, without a moment’s practice. Moreover, expert pianists, tennis players, golfers, surgeons, and soldiers reveal--when performance is objectively measured--the undeniable need to practice the unexpected and to convert a conscious task to non-conscious, automated behaviour. As expressed by Ann Albright and David Gere (2003), editors of *Taken by Surprise: A Dance Improvisation Reader*, improvisation must “presuppose the central position of surprise.” Improvisation through non-conscious development of expertise is one way of exploring how we anticipate, handle, and perform in situations of surprise, whether wanted or unwanted.

But improvisation is more than this. While this chapter respects and recounts the journey of scientists, it must include the story of artists. The journey from beginner to expert is not simply a tale of growing technical expertise. The Olympic coach or the great dance choreographers are much more than technicians. The journey of improvisatory expertise possesses psychological, spiritual, and poetic elements and becomes a journey of change, and yet, somehow, these life-changing moments may prove to be associated with biology, evolution, and the nature of order.

Provisional Definition of Improvisation

In the previous sections, we have discussed many fields of improvisation. Here I synthesize the research, and I propose a definition that has emerged.

Improvisation is the performance of agency.

Building upon Sawyer (2006) who articulates a sociocultural view of improvisation within creative studies, this definition is grounded in the work of Schechner (1988), Pressing (1998), and Butler (1999).

Agency references two of the most influential scholars of Performance Studies, Conquergood (1995) and Schechner (1988), by implicating both an immediately political and a deeply mythical form of agency. Agency also expands Pressing (1988) who articulates the paradoxical notions of referents which both constrain and release improvisation. My definition of improvisation crosses disciplines and questions the political neutrality of knowledge. The performance of agency, an inherently ethical perspective, also invites us to consider, not only the many different kinds of agency and constraints, but the central role improvisation takes in questioning, articulating, and defining the interplay between freedom and structure.

Toward a Cross-field Theory of Improvisation: Three Types of Improvisation

The chart below summarizes the fields of improvisation which is defined as the performance of agency. It also presents two original contributions. Firstly, the chart includes a category known as the “referent” which attempts to summarize the constraints the improvisational field operates within. The second contribution is a categorization of the fields of improvisation into three types.

I propose three types of improvisation.

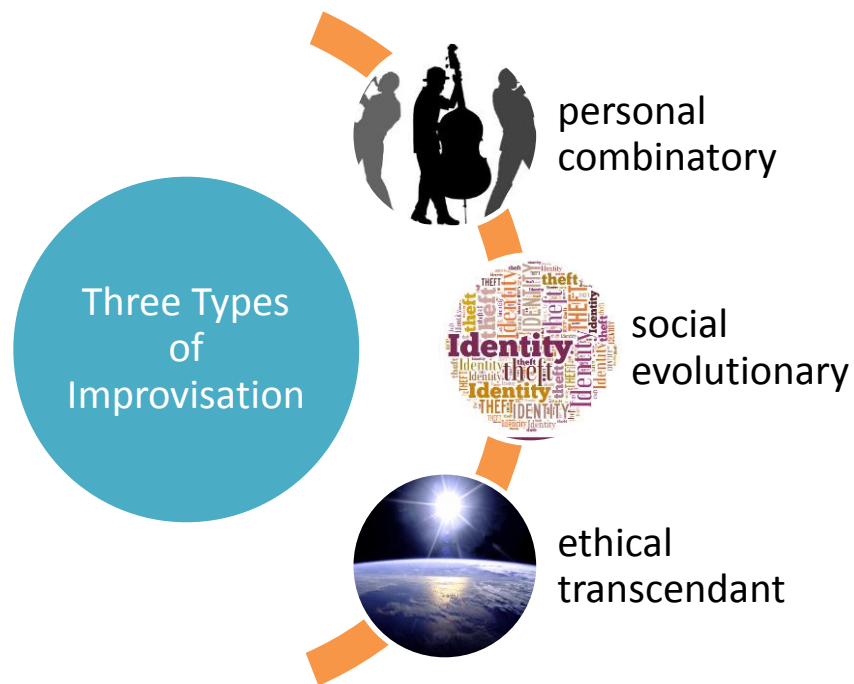


Figure 6 – Types of Improvisation

Type 1 Improvisation – Personal Combinatory Performance of Agency

Type 1 Improvisation is described as personal because it typically concerns the self or the individual's abilities or perception. The action in this type of improvisation is "combine." Improvisation whose creative force is combinatory. The most typical combination involves metaphoric use of jazz as a principle in some other practice. Typically, jazz improvisation is compared to organizational leadership, therapeutic practices, and dance, to name a few. The activity of combining is often seen as relatively basic development stage of improvisation but this is not necessarily so, especially because some combinations are often very difficult to imagine conceptually. A good example of this is witnessed in performance art as in Duchamp's "Fountain."

Table 1: Type 1 Improvisation

Description	Type 1: Personal Combinatory	Influencers	Sociocultural Referent
1. Jazz improvisation	Jazz combines real-time composition within the constraints of tradition.	Berliner (1994) uncovers discipline and culture of jazz.	Explores constraints of social authority and equality.
2. Expressionism in art	Expressionism combines spontaneous art with “unconscious” forces.	Belgrade (1998) explores expressionism.	Explores constraints of orientalism.
3. Musical therapy	Music therapy combines musical improvisation with psychological insight.	Bruscia (1998) validates musical improvisation as insight into unconscious motives.	Explores the constraints of music and psychoanalysis.
4. Musicology	Musicology combines improvisation with marginalized performative traditions.	Nettl (1998) explores musical improvisation across cultures.	Explores the constraints of improvisation across cultures.
5. Neuroscience	Neuroscience combines jazz myths of improvisation with scientific validation of intuition.	Berkowitz (2010) explores the constraints of neuroscience and creativity.	Explores empirical constraints of jazz improvisation.
6. Organizational Science	Organizational science combines social improvisation with strategic planning.	Shaw (2003) shows social improvisation as effective planning.	Explores constraints of rational and empirical discourse.
7. Expertise	Expertise combines jazz improvisation with the practice of high performance training.	Ericsson (2006) shapes improvisatory performance as a science.	Explores constraints of intuition used to train high performance.
8. Creativity Studies	Creativity Studies combines in-flight decision making with teaching.	Sawyer (2006) validates improvisation as generating new learning.	Explores constraints of co-creating learning experiences.
9. Dialogue and Conversation	Dialogue combines social improvisation and social well-being.	Thompson (2004) shows how improvisatory listening changes knowledge.	Explores how dialogical experiences constrain social change.
10. Cell Biology	Cell biology combines non-linear improvisation with complexity science.	Zong (2012) shows how improvisation evolves new biological forms.	Explores the constraints of empirical models.

Type 2 Improvisation – Social Evolutionary Performance of Agency

Type 2 Improvisation is described as social because it involves groups of people acting in an organized manner. The action this type of social improvisation evokes is “evolve.” Evolve remains a transformative process where a group (sometimes people) becomes something else usually a more complex form. Most often these groups concerns themselves with social change typically to shape political, cultural, ethical dialogue and action. Typical example of type 2 improvisation involve questions related to creativity as a process shaped by culture factors and collaborative thinking.

Table 2: Type 2 Improvisations

Description	Type 2: Social Evolutionary	Influencer	Sociocultural Referent
1. Identity	Identity Studies evolves human agency through personal/social improvisation.	Butler (1999) theorizes that socialization improvises the idea of gender.	Evolves the constraints of biological and social agency.
2. Nonlinear systems theory	Non-linear systems evolve improvisation as how complex systems self-organize.	Dean & Smith (2013) evokes improvisation as non-linear system.	Evolves the constraints around the creation of innovation in systems.
3. Educational pedagogy	Social learning evolves the efficacy of group improvisation.	Sawyer (2011) argues improvisation as pedagogical tool.	Evolves the constraints around human learning.
4. Creativity	Creativity studies evolves improvisation as self-organizing networks of people and neurons.	Berkowitz (2010) implicates improvisation in neuroscience.	Evolves the constraints around myths of personal creativity.
5. Theatre	Theatre evolves improvisation as a primary mode of co-creating personal and social engagement.	Johnstone (1981) sees improvisation as true education.	Evolves the constraints around individual and social activism.
6. Project Management	Agile Development evolves improvisation as a model for project management.	Beck et al (2001) use improvisation to evolve an effective model of project management.	Evolves the constraints of rational project management.
7. Dialogue	Dialogue evolves improvisation as sense-making and bond-forming.	Sawyer (2001) shows improvisatory dialogue as transformative.	Evolves the constraints around creative educational experiences.
8. Chaos and mathematics	Mathematics evolves improvisation to be a model for creation in complex systems.	Borgo (2005) explores emergent meaning in chaos-based systems.	Evolves the constraints around empirical knowledge.
9. Leadership	Leadership evolves improvisation as inspiring collective change.	Scharmer (2007) sees improvisation as leading to consciousness change.	Evolves the constraints around human consciousness.
10. Quantum Physics	Quantum physics evolves improvisation as networked creative impulses.	Kauffman (1993) says improvisation is part of the conscious universe.	Evolves the constraints around science and religion.

Type 3 – Ethical Transcendent

Type 3 improvisation is described as transcendent because of the intent to reach beyond its own constraints or familiar boundaries. The action in this type of improvisation is to transcend. Ethical describes a social emancipatory component committed to conceptualizing and transcending a social construction of ethics. Improvisation that transcends has its basis in questions surrounding philosophy, morality, and anthropocentrism. A typical example of type 3 improvisation is the conversation around the aims of education. These conversations are typically conducted by those who consider education to be dominated by forces that reinforce global political capitalism.

Table 3: Type 3 Improvisations

Description	Type 3: Ethical Transcendent (quantum)	Influencer	Sociocultural Referent
1. Postmodernism	Deconstructive improvisation may transcend the inconsistencies of reason.	Landgraf (2011). Derrida (1976) challenges the authority of thinking.	Transcends the constraints of western metaphysics and epistemology.
2. Postcolonialism	Postcolonial improvisation may transcend colonial relationships.	Dean & Smith (2013) explore improvisation as emergent forms of social discourse.	Transcends the constraints of colonialism.
3. Non-western Music	Intercultural improvisation may transcend western biases of text, score, and culture.	Berliner (1994). Improvisation is linked to social change.	Transcends the constraints of western music.
4. Non Conscious Psychology	Non Conscious Improvisation may transcend our view of tacit behaviour.	Eagleman (2011) examines automatic, non-conscious behaviour.	Transcends the constraints of human consciousness.
5. Cell biology evolves	Nonlinear improvisation may transcend our view of complex biological systems.	Zong (2012) suggests complex biological systems organize through improvisation.	Transcends empirical models of the biological world.
6. Leadership	Mindful dialogic improvisation may transcend limits of social action.	Senge et al (2009) argues for a social improvisation revolution.	Transcends the constraints of rational decision-making.
7. Sonic Meditation	Sonic improvisation may transcend limits of human consciousness	Oliveros (2010) offers Deep Listening as transformation.	Transcends the constraints of humanism.
8. Ethics	Co-created ethical improvisation may transcend social limits.	Nichols (2013) suggests social improvisation forges deeper ethical relationships.	Transcend the self-limiting constraints of difference.
9. Artificial Intelligence	Improvisation transcends human judgement.	Dean & Smith (2013) present improvisation as key to emergent thinking.	Transcend the limits of humanity.
10. Creativity Studies	Improvisation transcends our ideas about how people learn.	Sawyer (2011) shows improvisation as a way knowledge is created.	Transcend the myths of human creativity.

The Further Development of Theory: Sociocultural Referent

Gender is the practice of improvisation within a scene of constraints (Butler, 2004).

What is a Referent?

Referent was coined by psychologist Jeff Pressing (1984) to refer to the structures that limit the freedom of improvisers. I expand the term here to suggest that referent refers to source assumptions inherent in a field.

A referent is a source assumptions that can refer to 1) implicit beliefs, 2) ideological views, and 3) worldviews that infuse the field.

When discussing jazz, Pressing uses the term referent to reference the melody that musicians use to form the basis or skeleton of their improvisations. In my formulation, I used the term referent to reveal ideology--values, beliefs, and worldviews. I also suggest that the notion of referent is a salient way of exploring the values and worldviews of researchers themselves.

General Assumptions

1. Referents are a specific tool to analyze ideology in the study of improvisation;
2. Referent analysis is only one tool in the sociocultural analysis of improvisation;
3. Referents are not ideologically neutral;
4. Referents are not mutually exclusive; they may overlap. People can hold competing or incompatible referents;
5. Referents are connected to the formation of culture.

Discussion of Referents

Pressing's concept of a referent, I would like to suggest, can be improvised as a socially determined and often implicit ideology, the deconstruction of which Derrida termed the metaphysics of presence. Referents are like the holy grails of signification and meaning: they motivate and are believed to be real, but they are essentially socially determined creations (Derrida, 1976). For example, Butler has shown that gender itself is less a biological distinction than a culturally performed one. Race has been shown by many anthropologists and cultural scientists to be a cultural determinant, not a biological reality. The notion of the referent builds on Butler's use of the term constraint, Derrida's repetition, and what Peters (2009) called scrapyard improvisation (making new out of the old):

Butler understands improvisation as a "practice" and she sees improvisation as being embedded within and hence defined by a "scene of constraint. The word "practice" underscores that improvisation, while not following a particular plan, nevertheless is an activity that relies on experience and repetition...The performance of gender is enveloped by constraint. Highlighting the constitutive role of constraint, again, is not counterintuitive to the role constraints plays in artistic improvisation or even as practiced in everyday situations when proper tools, information, or plans are missing and, faced with the unexpected (e.g. the car breaks down, the computer crashes, one runs into a person one was not prepared to meet), you are forced to improvise, that is, solve a problem with limited and limiting temporal means. (Landgraf, 2010, 16-17)

Similarly, traditional notions of creativity tend not to be explicit about the source ethos or desire for a core ontology or metaphysics that often exists with the construction of values, meaning, ideology, and particularly, conceptions of truth and reality. It is no wonder that both artists and scientists have seen improvisation in ways that support their particular version of

reality. Both groups seek to verify the source of creativity, but through different methodologies. But the ontologies, the metaphysics of presence, follow identical paths: some artists suggest that creativity is unknowable because it is connected to the unseen realm of art, religion, truth, beauty, and what has been more palatable for materialists and scientists--the unconscious, implicit or tacit knowing, and even chaos and/or chance. At a broader level, Landgraf (2010) theorizes as follows: "improvisation cannot be decoupled from structure and repetition; rather than being the expression of unbridled freedom, improvisation must be seen as a mode of engaging existing structures and constraints (p.11). He suggests further that "improvisation cannot be viewed independently of the social and cultural context of its articulation" (p.11).

The Referent that Emerges from Music

A survey of studies concerning improvised music across history and cultures reveals a referent that paradoxically "enables and constrains" embodied social resistance. Let us call this term the jazz referent. Readers should understand that certain generalizations inherent in the thinking here are made for the purpose of applying a polyphonic analysis. In all cases, there will be exceptions but I hope to show that broad thinking is necessary to conduct this meta-analysis.

Jazz Referent Characteristics

Resistance

A referent contains an implicit meta-narrative and in variations of music improvisation, we see a repeated tendency to resist musically and physically what cannot be resisted socially. The

African influence on jazz music reveals a tortured historical context of slavery and racial oppression (Berliner, 1994). Jazz, with its egalitarian treatment of solos, its insistence on fracturing and then healing musical referents, and the quality of its musical expression which explores the frontiers of experimentation and freedom while still maintaining formal and organized properties, is a model of constrained, open yet hidden, social resistance (Berliner, 1994). Jazz improvisation, while thought of as an art form today, was once seen as not worthy of serious attention.

The jazz referent is not an overtly revolutionary one. Jazz improvisation is musically revolutionary, but not politically revolutionary. Its tone, structure, and meanings do not speak with the same plaintive nearly passive acceptance of one's fate as the blues; on the contrary, jazz's extraordinary displays of virtuoso and frantically passionate and expressive solos tell a tale, not of open defiance, but of confident but quiet determination and resistance. Other forms of musical improvisation also have strong socially-orientated themes but the music referent has two important distinguishing characteristics: embodiment and social acceptance.

Embodiment

Music researchers have linked music with its ability to produce emotion (Pressing, 1998). The emotional content is perceived across the senses. Movement and dance accompanies music because of this multi-sensory impact. The embodied aspect of music can be connected to social resistance because it is not just the mind that apprehends socio-political resistance, but the body as well (Levitin, 2008). This phenomenon is powerfully articulated in history and also in scholarly accounts written by indigenous researchers and other non-traditional scholars when describing how colonial processes contain emotional and physical impacts (Munoz, 1999). In the words of performance scholar Dwight Conquergood, "borders do not just contain, they

bleed” (1991). Conquergood refers here to how sociocultural art practices such as music provide the opportunity to create resistance, even when freedom seems difficult. Munoz states that artistic actions create communities where small, nearly microscopic pockets of resistance are formed when people gather (1999). Munoz calls one set of strategies disidentification: a survival strategy that resists normalization through engaging with the remaking of a dominant script.

Social Acceptance

Jazz music builds even more power as a form of resistance by developing communities of solidarity and shared expertise. Social change through artistic performance is described by Victor Turner as primary (Turner, 1996). Rather than viewing social change as a result of culture, Turner (1996) sees performance as itself a creator of social drama: “cultural performances are not just reflections or “expressions: but active agencies of change. The jazz performance itself, in other words, can be seen as a drama of resistance and acceptance (Conquergood, 1999). The melody may represent a cultural boundary, but the solos represents individual agency. The ability to play harmonically in a group while experiencing the drama of improvisation may also speak to group agency (Turner, 1996). The performance of improvised jazz is much more than listening, it is a sensual embodied performance that dramatizes both resistance and freedom.

Example of the Jazz Referent

‘Kind of Blue’ is regarded as the best-selling jazz recording of all time. In 2002, *Rolling Stone* magazine ranked it 12 out of the 500 most influential recordings of all time. It is heralded as a revolutionary and highly influential musical statement. It was recorded in two impromptu

sessions by Miles Davis's sextet in March of 1959. According to a series of interviews with the musicians by Ashley Kahn (2000), the performances were completely improvised. There was no score. There were no written chords or specified chord changes. Most jazz performances at the time were guided by a series of chords, dictated by a musical referent. The musical referent in 'Kind of Blue' is known as modal scales. Instead of using a chord structure, Davis employed his musicians to use modal scales that were not connected to a melody, chord structure or a recognizable song. In interviews, Davis stated he was looking to free the music from the restriction of sequence that chords represented (Kahn, 2000). Without the chordal path, the solos are longer and relaxed in tempo, key changes are subtle, and there is an extended melodic character to the solos. Davis booked the musicians, which included pianist Bill Evans and saxophonist John Coltrane, and it was his practice not to book rehearsal time. Evans describes receiving from Davis scales on which to improvise only days before the recording date. Once the group members arrived in the studio, they turned on the recording equipment and played. Most of the songs were completed in four takes or fewer. The reception and influence of 'Kind of Blue' attests to its ability to not only revolutionize jazz, but also cross musical genres and attract new fans to jazz. It is widely perceived by critics as an album that towers above its peers. This is not just a statement about artistic achievement or critical reception: I suggest it is a statement about the album's ability to attract both a white and black audience. The modal approach certainly gave musicians like Bill Evans and John Coltrane a "new language" as stated by Chick Corea (Kahn, 2001), but it also gave them a new audience, one that crossed the sociocultural lines and allowed for a shift in racial consciousness that is evinced by the evolution of blues, jazz, Motown, and rap. In the words of an unnamed poster on Wynton Marsalis's official website:

The world needs to know that jazz is responsible for creating this great man [Obama] and that jazz is interwoven into his struggle. Jazz was created in a time when black people could never envision of being president [sic]. It came from the struggles of slaves and second class citizens. The roots of jazz are negro spirituals, gospel music that became the blues, which turned into jazz.

The referent of music improvisation expresses an ideology of social resistance. What has been the result? Has jazz improvisation improved the social situation for its members? There is no easy answer. On the one hand, jazz improvisation has emerged as a unique and celebrated art form with its expert performers celebrated across the world. On the other hand, jazz improvisation is a very small part of popular culture, most celebrated by white, affluent Western consumers (Berliner, 1998). The referent of improvisation as a mode of resistance still exists, but we shall see that this referent is evolving and may have redefined its early sociocultural roots of resistance.

The Referent that Emerges from Art

Visual and literary art, when practiced by improvisers, contains both similarities and differences to other art forms. Improvised art performance and improvised art composition engage a referent that is historically connected to the contested term--the unconscious. The emergence of surrealism and performance art demonstrate the desire to construct a source for creativity. Freud's theories had a profound influence on artists such as Andre Breton who were trying to find ways to connect with a form of art practice that was less intellectual, more immediate, and more connected to primal, instinctual, and spontaneous practices. The Beat poets, Jackson Pollock, and abstract expressionism in general are examples of the spontaneous impulse. Today, this impulse is reflected in the enduring influence of primitivism on many different artists and art forms. Early modern artists attempted to break away from formal modernism and moved toward art that critiqued, resisted, and broke free of forms and practices that depended upon socially-constructed restrictive views of art.

Improvisation is expressed in a myriad of ways in the art world. The unconscious was seen not

only as the potential source of art, but it was also seen as a way to democratize the special status of “the genius artist.” The referent that emerges from art grapples with the source of art as demonstrated by the Dada and Surrealism which incorporated Freud’s ideas in a form of spontaneous art that purported to expose a higher reality. Dada and surrealism are connected to performance art and many new expressions that have in common an intense subjectivity that is critically reflexive. Landgraf, in *Improvisation as Art*, suggests that modern improvisational art can be distinguished from its Romantic precursor. The Romantics contested any stringent separation between actual and staged improvisation, where modern artists demonstrate how authenticity is derived and constructed from particular staging processes. New media artists, for example, raise the question of authenticity and how it is staged through the inherent contradictions of electronic reproduction (2011). Philip Auslander in *Liveness* also demonstrates how questions of immediacy and authenticity are intrinsic to modern forms of expressions. Auslander suggests that the discourse of authenticity around live performances reveals no ontological differences between live performances and media. I would further suggest that a critique of the ontology of presence (authenticity) is one of the preoccupations of performance art in general, a critique that initially stems with a critique of art’s own obsession with the unconscious. Along with questions of presence, improvised modern art can be argued to be concerned with “emergence itself” which may be a development of its Romantic, Dada, and Surrealist roots.

An Example of the Unconscious Art Referent

On April 1917, Marcel Duchamp purchased a porcelain urinal. He returned to his studio, turned it upon its side, signed it, and titled it “Fountain.” With this single improvised action, Duchamp launched conceptual art. Duchamp's *Fountain* was voted the most influential artwork of the 20th century by 500 selected British art professionals. In 1999, one of the remaining eight replicas of the Fountain sold for 1.7 million dollars. Duchamp broke the link between the artist’s

labour and the merit of the art. He brought improvised art forward in a way that “de-deified” the artist and shifted modern perceptions of art. These Ready-mades, as Duchamp called them, demonstrated that art was less about form or physical beauty, and more about the relationship between the art object and the art viewer. The shift from visual appreciation to intellectual interpretation marks the arrival of ordinary objects, the artist’s own body, and the antidote to what Duchamp called “retinal art” (Tomkins, 1996). In general, Duchamp initiated the improvisatory artist’s obsession with calling to attention the process of creation and perception (Carlson, 2004). The improvisation of Duchamp became a challenge to the received definition of art. This shift toward how art is perceived and instituted the international movement known as Dada. The Dadaists believed that art was not an end in itself, but an opportunity to critique bourgeois and colonial culture. The referent of the unconscious is used by Duchamp as a mode of encountering randomness, ordinariness, and purposelessness in art. In surrealism, on the contrary, we have the desire to find new meaning, a meaning located in Freud’s scientific theories. As we have seen, the art world takes the concept of the unconscious beyond Breton and his followers, but the interest in the source of creativity remains. Surrealism, still an influential cultural movement, is a good example of a movement that constructed an aesthetic, social, and political vision based upon the existence of the unconscious. However, Freud and others did not view art as the immediate product of those who are in a vital and authentic relationship with the unconscious. Critics pointed rightly to Surrealism's romanticizing of the internal-other (Hopkins, 2004). The historical context placed artists (Breton), cultural movements (Dada), poets (Rimbaud), and philosophers (Nietzsche) against the totalizing systems of logic and rationality. Artistic improvisation, one might say, can be an explicit or implicit form of resistance to totalizing human systems.

The Referent that Emerges from Theatre

The self is the product of a scene, not the cause of it. (Goffman, 1959)

Theatrical improvisation is linked to the same sociocultural forces as other forms of art improvisation. It has in common with the art world issues related to representation and a reflexive interest in defining a theatre suitable for a changing aesthetic and culture. Theatre history is steeped in social concerns and an interest in evolving a collective consciousness that might lead to some kind of “action” whether it be political or existential. Improvisation has played a key role in the development of politicized and socially conscious forms of theatre, from the Theater of the Absurd, to Brecht’s Epic Theatre, to Boal’s Theatre of the Oppressed, to name a few. Brecht sought to create rational self-reflection and employed the use of techniques that caused the spectator to see that the play was not reality but a “constructed reality.” Boal used many techniques to engage the audience in improvised conversation or, in some cases, to go onstage and take the place of the actors themselves. Both Brecht and Boal relied on improvisation as a way in which to create collaborative interaction on and off the stage. Grotowski’s Poor Theatre sought to reduce theatre to its most essential qualities. Even the script became unnecessary, allowing actors and audience space to improvise a relationship beyond the traditional norms of theatre. Treatises on the training of actors in improvisation reflect a psychological essence that owes its roots to Stanislavski, the Russian actor and theatre director. Stanislavski considered acting a process of rigorous reflection and self-examination, a tradition which continues today. The method he employed was one of psychological realism, inviting actors to create truthful or authentic emotions and action by replicating or accessing their own histories. Notions of the unconscious are important in understanding the Stanislavski method. By actors embodying authentic personal actions, it was hoped psychological truth would be revealed and represented. These assumptions about portraying an embodied authenticity have been taken up by other acting theorists and teachers such as Lee Strasberg and Stella Adler, both of whom focused more on specific psychological techniques. The

unconscious referent revealed in art improvisation is accessed in improvisational pedagogy, especially the practical skills development documented by Viola Spolin in *Improvisation for the Theatre* (1963) and Keith Johnstone's *Impro* (1979). The games, exercises, and general philosophy of creative self-consciousness that began in the fifties and flourished with *Second City*, *Theatresports*, *Saturday Night Live*, and *Whose Line is it Anyway* have had an enormous influence on contemporary film, television, and theatre. I suggest that the dominant referent at work in theatre is "evolving" or the development of self takes us to the notion that behind all the improvisational techniques is a quest toward evolving as a kind of embodied, dialogical, performative consciousness. In other words, we present "evolving" as the intersection of the actor and audience: "The relationship between the real and the representational, between the looker and the given to be seen, is a version of the relation between self and other" (Phelan 1993 p.3). Improvisation moves toward "presence," a term described by Grotowski as "consciousness which is not linked to language (the machine for thinking), but Presence" (Grotowski (1993) p. 125 quoted by Magnat (2005).

The Evolution of Three Referents

Arc of Theatre: The Future of the Evolving Referent as Presencing

Presence. We've come to believe that the core capacity needed to access the field of the future is presence. We first thought of presence as being fully conscious and aware in the present moment. Then we began to appreciate presence as Deep Listening, of being open beyond one's preconceptions and historical ways of making sense. We came to see the importance of letting go of old identities and the need to control and, as Salk said, making choices to serve the evolution of life. Ultimately, we came to see all these

aspects of presence as leading to a state of “letting come,” of consciously participating in a larger field for change. When this happens, the field shifts, and the forces shaping a situation can shift from re-creating the past to manifesting or realizing an emerging future. (Senge *et al.*, 2005, p.11)

Linked closely to the work of theatre performers, dance choreographers, the cultural influence of Buddhism, the Deep Listening contribution of Pauline Oliveros, as well as the organizational work of Peter Senge, Otto Scharmer, and others is another emerging improvisatory referent that is connected to both the jazz referent, the art referent, and what I will term the biological referent of machine and evolutionary improvisation. With its historical roots in phenomenology, environmentalism, systems theory, and eastern traditions such as Buddhism, this improvisatory tradition, if I can call it that, is characterized by its focus on the body, on the moment, and on a type of consciousness rather than on unconsciousness, creativity, problem-solving, expertise, or education. In this emerging paradigm, the arts become deconstructed or “devised” (Magnat, 2005) so that the artistic “products” become de-emphasized in favour of artistic “processes” that relate to “Presence.” According to Virginie Magnat, “Devising might thus be defined as the art of losing one’s moorings to the familiar, a fruitful loss yielding a kinesthetic and associative form of awareness” (p. 74). Actors undertake improvisatory training not just to be better actors but to be better human beings (Johnstone, 1979) and to create a better world (Nachmovitch, 1990). This type of improvisation can be termed evolving (von Emmel, 2001), not because it is connected overtly to Darwinian evolution but more because it is connected to humans evolving a “new” consciousness that is not primarily concerned with “performed” creativity in the arts and “performed” expertise as in business, sports, and other experiences caught up in the machinery of the market, but rather performed in the sense first espoused by Goffman (1959): life is a performance. This is not to say that “presence” is not the core concept that underlies expert performance of many kinds. Von Emmel describes evolving as a form of improvisation that is natural and that does not need to be learned; it only need be practiced as breathing is practiced. There is an irony here because breathing, while a natural process is often the first thing that is practiced whether we are in an artistic, spiritual,

theatrical, therapeutic, athletic, or any practice. The de-emphasizing of improvised artistic and commoditized performance transforms music into listening, dance into movement, talking into empathy, and acting into the art of authentic being or presencing.

The Arc of Jazz: The Future of the Music as Artificial Intelligence

What is the referent in this form of improvisation? The emphasis on embodiment, social transformation, and awareness suggest that evolving is like its antecedent jazz, essentially a critique of the modern world. Evolving is a form of resistance, a kind of embodied non-performance against the constant socio-economic demand for solutions, results, and answers. The word, of course, is troubling because of its association with colonization and empirical knowledge. The referent here is not the unconscious or biological algorithms; it is essentially a unifying form of connected consciousness that is not individualistic in character, and not necessarily culturally specific. Its roots in non-Western traditions connect it to Romantic and Dionysian expressions, but I argue that it remains rational to the degree that say, meditation, is rational. Oliveros calls this “quantum” improvisation because it suggests a leap beyond singular human consciousness toward a metaconsciousness which when augmented with machines leaps beyond the limitations of biological life forms. The evolving self, if it is to be analyzed for its ontological roots, possesses what might be called a post-human character. As displayed in science fiction, machines possess souls. Improvisation is understood as a process for the evolution of life including the self, where the Other is not found *within* as in psychological models, but no *where*. Implicated in this concept are sociocultural values that appear post-colonial because the values implicit to evolving are meant to resist the impulses that suggest that one person is actually different from another. In a way, evolving is transcultural and transnational. Here we can point to the contribution that theatre has made in developing a model of improvisation that is in some ways distinct from the contribution of music. Like the transformational work of Freire and Boal, there is no Other in the posthuman model to be

demonized and derided. Consciousness and embodiment are not just unifying forces for a holistic awareness, but evolving espouses values of equality based on the premise that humans and non-humans share an evolving pathway. Oliveros, Johnstone, and avant-garde artists who have begun to describe and practice improvisation in this way are attempting to privilege social and planetary change without colonizing. Theatre performers who work in this realm often possess social justice backgrounds, often have a history of being involved in environmental, social, and political movements, and state an explicit desire to create evolving through art. But, I wonder how this desire can be disentangled from how the “new” consciousness has been instrumental in colonial discourse. Oliveros and others see improvisational consciousness as a way of evolving, as a concrete way of exploring new ways of sensing, collaborating, and performing. I tend to see this category of improvisation as a harmonizing force because its practitioners help us to understand why improvisation ought to be studied across fields. Evolving (and its problems) also helps prepare the way for the next step in our discussion.

IMPROVISATION AND OLIVEROS

Contextualizing Improvisation and Oliveros

Is improvisation everywhere? Is it merely a globalizing creative practice in the service of capitalism? Is it an unwittingly new age formula for colonial discourse? Is it the first “postdiscipline” of the century, one that will dramatically change our notions of education and training (McKenzie, 2001)? Is it a postcolonial “third space” between the dichotomous standpoints of universalism and relativism? Will it allow for new possibilities for being and becoming? How is improvisation emerging and from where? Is there a useful definition that can capture its protean, situational, and complex nature? Is there a pedagogy? How can

improvisation be the domain of social theorists, artists, therapists, athletes, designers, entrepreneurs, activists, and software engineers? Are these practitioners and theorists all doing the same thing? Will improvisation, as suggested by the ideas behind Oliveros's quantum improvisation, be the postcolonial transhuman practice that occurs between humans and machines to help shift the planet, our circumstances, and our fate?

When we study improvisation, when we practice it in one of its many forms, when we consider how different cultures evoke specific practices in different situations, when we inquire into the utility, especially social utility, of its cross cultural practices, when we meditate on the term as both noun and verb, we cannot help but realize that the totalizing impulses around its definitional characteristics are strong. We cannot help but want improvisation to mean one thing and perhaps everything. Perhaps it is, as Nichols (2012) suggests in *An Ethics of Improvisation*, a type of rehearsal: an "aesthetic pluralism that rehearses the political pluralism that will prepare us for the challenges we face in transitioning out of the social conditions of privilege, oppression, and marginalization and into those of inclusion and justice" (p.9).

Is improvisation a provocative variation of Bakhtin's civic "polyphonic," a pluralistic chamber in which to hear the embodied expressions of spontaneous becoming? We may receive a surprising glimpse of ourselves in tracing the many arcs of its development as a globally diverse set of practices, theories, and philosophies touching and influencing a seemingly ever-growing range of subjects and spheres. We may also hear in the polyphonic, the discoveries of experimental composer and activist Pauline Oliveros which do not merely explore the creation and morphology of the New, but also illuminate an interesting range of novel questions. These questions include those about the possibilities of human and machine augmentation. These questions provoke inquiries into a better understanding how human beings gather and accelerate expertise. They include perhaps novel ways to consider the topic of emergence, from the quantum properties of sub atomic particles to the chaos-theory algorithms informed by the improvisational properties of the natural world.

What Do We Want from Improvisation?

From aesthetics, education, ethics, politics, art, social sciences, neuroscience, philosophy, consciousness and beyond—what is the polyphony of improvisation rehearsing? How do we study the sound?

Would we be wrong in considering improvisation as just another subject, something to be learned and understood by simply reading about it? Or is improvisation somehow distinctive, a pulsing sign suggesting that academic subjects, and perhaps all subjects for that matter, require more integrative and diverse approaches, something beyond the conveniently interdisciplinary—something more tangible, explicitly connected to the senses of the body as well as to science--something better able to handle the performative aspects of improvisation and new theories in complexity, chaos, and emergence.

And what does Pauline Oliveros and the sonic consciousness known as Deep Listening have to say about the prospects of improvising an emergent and co-existing civic pluralism?

After seventeen summers of Deep Listening Retreats and as many years of international Deep Listening workshops--musicians who at different times completed three year certificate training in Deep Listening came together to collaborate under the auspices of the Deep Listening Institute, Ltd. These musicians in a variety of self-selected ensembles made a distinctive musical contribution as improvisers using networking technology to create new pieces and concert programs in the project Deep Listening Convergence.

What happens in a Deep Listening Retreat? Participants spend a week living together in a beautiful natural environment with the intention of practicing listening. People practice

nonverbal time together from ten in the evening until noon the next day. There is a morning listening walk with physical energy exercises, breakfast in silence then a Deep Listening meditation followed by sounding exercises. Tai Chi and creative movement is practiced before dinner. After dinner Deep Listening Meditation is followed by the induction of listening for sound in dreams. The evening is adjourned to silence.

What relevance does Deep Listening have for the training of musicians? Listening is often neglected in favor of developing motor skills or technique. Attention to listening helps to integrate physical actions with mental awareness and alertness so that technique is never mechanical or unfeeling. Deep Listening opens a way for technique to emerge through listening.

This study suggests, using the example of Oliveros, that the desire to totalize, reify, define, and capture improvisation comes for many reasons and reverberates in many actual and “nonterritorial” spaces. We seek improvisation not only because it is a body of information about the mysteriously spontaneous discovery of that which is perceived as new, but because it may rehearse alternative ways of being and becoming. The New comes in many forms—practices, conversations, inventions, art forms—this is well understood, so why is there no theory of creativity that is informed by a cross-field inquiry of improvisation?

The word “totalizing” is used here because of its philosophical and practical lineage. We want to understand the fields of improvisation in aggregate. We want to see similarity in its multiplicity of forms. We want to distinguish difference. Is the mind’s ability to totalize, to find unity, something that is to be distinguished socioculturally? Is it the way we are or the way we made ourselves? Is the unifying mind a western concept, is it situational, it is an embodied “ethno-tendency” or something else? What might the sound of this movement tell us?

Thinking about improvisation leads one to consider knowledge itself, the totalizing mind as it seeks meaning outside its body: it may perhaps lead one to thinking about feeling, nudge us toward an embodied philosophy of knowledge. Improvisation is an experience which has clearly tantalized many. It is referenced nearly everywhere from popular culture to neuroscience and quantum mechanics. Thinkers and practitioners hoping to unlock the secrets to human and sentient machine performance find the term problematic, contested, and blurry at best. Similarly, performance is accordingly implicated as it regards improvisation, and I think of Park-Fuller's prescient comment: "improvisation is indigenous to performance" (2002, p. 2008). Performance is not just another one of those protean words that means everything but nothing, for it may be as Jon McKenzie (2001) describes a "postdiscipline," a new category of thinking about thinking that elides the binary boundaries between subjectivity and objectivity, science and humanities, mind and body.

Pedagogy of Improvisation

Can improvisation be taught? Who asks this question? And perhaps more to the point, what can we learn from this question? Here we are not asking about commonality, what makes improvisation similar across different practices. What do we learn about improvisation by asking if it can be taught?

At some point, we begin writing lists. Dramatic improvisation is routinely taught, not only in theatres but in corporations. Musical improvisation is taught everyday but is taught differently depending upon the cultural tradition. Improvisation in sport such as in gymnastics, football or basketball is generally not taught. Improvisation in everyday conversation or speech such as those that occur in meeting rooms every day is not taught. Dance improvisation is routinely taught, especially in western modern forms. Improvisation as it occurs in software development

is taught. Whether taught or not taught, we must ask ourselves: can it be taught? Moreover, in what spheres might improvisation *not* be considered worthy of conceiving as teachable?

After the listing, we begin to notice variations, and we ask ourselves: when is something an improvisation and when is it merely a variation on a pattern? Are there gradients to improvisation in music, theatre, or conversation? If it is possible to discern gradients, does a structure to the pedagogy of improvisation emerge? Is this structure a feature of the type of improvisation or can generalizations be made?

What is the role of repeatability in improvisation? When you can repeat an improvisation, can it still be termed an improvisation? Or does it now become a form, a structure, a set of limitations that can then also be the subject of an improvisation? Speaking of the subject of the improvisation (or perhaps another way of putting the structure of improvisation, the form may be another term), is improvisation something that always occurs within the rule and boundaries of a structure? If so, is that structure mainly aesthetic as in a melody or dance? Is this structure or form always necessary? Can one improvise without a structure or is that akin to speaking without a language and/or a grammar? Moreover, is it possible to improvise *across* structures? Or must improvisation always require a structure?

Are we, when asking these questions, moving toward some sort of classification where we differentiate how innovative or ground-breaking or novel some improvisations might be? This is where the notion of improvisation not being able to work outside a subject might lead to the conclusion that improvisation which actually breaks structure/form/subject is actually quite impossible. It is simple to imagine that ballet, when improvised, becomes some other form of dance--but a ballet improvised cannot become something entirely different; a subject change, or more specifically, the *referent of the improvisation* creates limitations.

Are creative breakthroughs then, the kind often called disruptive innovations (Christiansen, 1997) or the kind termed Big C creativity (Sawyer, 2011), the kinds of creative acts that do break form structure---are these generally not improvisations? Is improvisation, then, not a “radical” form of creativity (stays within a referent), but a minor form in the sense that the kind of breakthroughs provided are always at an order below fundamental structure breaking?

This is a worthy question and one that should not pre-judge the utility or practical value of improvisation. The value of a creative act is extremely difficult to assess. Even with the ability to record and scrupulously study these performances, the line between improvisations and so-called creative breakthroughs is worth examining. Biological improvisation always occurs within some form of structure, but evolutionary adaptations, if we can call them improvisations, cannot be judged as less significant in any way than something that appears without precedent and is not based upon a pre-existing subject, form, or structure. Perhaps the notion of big C creativity will be questioned by an exploration of improvisation. Perhaps structural improvisation is an assumption that will lead to an understanding of improvisation as something more than a spontaneous playing within.

Of course, there are other, not obvious commonalities we see in biological, artistic, musical, theatre, and other forms of improvisation. We shall notice that there are stereotypes--the same stereotypes that govern the field of creativity studies--that need to be explored and examined. For example, the question of spontaneity is one which arises a great deal. The notion that improvisation occurs in real time is a strong and rather dominant assumption. One might ask what things do not occur in real time? Does not everything occur in real time? To be clear, the types of improvisation that are referenced here are those that are judged to be performed without a previously prescribed score, pattern, or text. The sense of real time means that the sense of time involved in these acts of improvisation occur in an unplanned and spontaneous sense. We should underscore that these improvisations are always performed. The performative nature of improvisation has significant implications and will be explored as

contributing to a deeper and wider understanding of improvisation.

Genealogy of Improvisation

Performance theorists like Linda Park-Fuller claim that “improvisation is indigenous to performance” (2002, p. 208). Moreover, Park-Fuller uses improvisation as one of the dominant metaphors of the field of performance studies. She develops the term as a counterpoint to disciplinary metaphors that she finds useful but limiting. She points out the limitations of geo-spatial metaphors such as boundaries, fields, maps, and borderlands. These metaphors, of course, are aimed at the limnality (Turner, 1987) of the discipline as well as the limnality of subjects of the disciplines as well as the limnality of theories, discourse, and methodologies of the disciplines. However, mapping metaphors have their weaknesses. Maps are symbolic in their nature and are not meant to replace the reality of the place. A map can substitute real knowing. A map is only a substitute for the real. Park-Fuller prefers improvisation as a metaphor because it has the advantage of being less conflict-ridden than geographical metaphors. In the language of borders, there is always someone gaining or losing ground. Thus, improvisation becomes, potentially, a useful metaphor in the discipline.

Improvisation, Park-Fuller states, is a well-understood term. I disagree. Like many other terms, it means many things and can be contested. I wish to suggest an alternative understanding of the term by developing an analysis using Foucault’s three major methods of meta-historical/epistemological analysis: archeology, genealogy, and self-care. All three methods overlap and contain elements of one another. They are not mutually exclusive. Foucault specialists insist also that these methods go in sequence, so I will discuss them in order.

Foucault’s archeology has little to do with archeology as a science. In fact, critics point out that

Foucault's usage is not metaphorically similar to the traditional idea of archeology. Instead, archeology is more of a philosophical term used by Foucault as a version of postmodern deconstruction, where certainties and authorities (connaissance) are shown to be formed by a larger discourse of cultural possibility (savoir) (Foucault, 1988). These certainties, whether it be a culture's view of sexuality, deviance, or law, require the use of Munoz's Foucaultian formulation "disidentification;" a level of detangling that demonstrates that reason and logic have less to do with how certain humans are about their laws, meanings, and cultures, than chance, emotions, and irrationality (Munoz, 1999). Now what happens when we use archeology to inform improvisation?

We discover that improvisation is part of an ideology of creativity that has been used as a way of legitimizing culture power in the academy and in artistic traditions. Improvisation, like creativity, is and has been used as binary between those who are and those who aren't creative. The very interesting thing about the discourse is that the subject that is created is one that is marginalized by the other and interested in self-differentiation. *I am creative, and I hate being the creative one.* To look at creativity as a kind of ideology perpetrated by a culture that is at war with difference/uncertainty/mystery and yet needs it to create innovation and support its economic agenda is a way of understanding creativity from a socio-cultural perspective. Improvisation as a performance tells us a different story about improvisation, as we begin to see a reflection of how each "stakeholder" might attempt to create the ownership of discourse over the term.

The largest stakeholder in improvisation is the jazz category where improvisation is seen as the culmination of musical expertise. Let me add that jazz improvisation emerges outside the boundaries of music and cannot be considered an internal category within jazz. Jazz improvisation, however, is also associated with heightened levels of expertise. The jazz stakeholder is not reserved for jazz fans or musical people; on the contrary, many academics, whether they are studying theatre, art, or management, consider jazz analogy or metaphor to

be a dominant metaphor in their understanding of what improvisation means.

However, there are many problems with the dominant understanding of improvisation. Four key assumptions need to be unearthed and better understood:

1. Is the structure of jazz improvisation generalizable to other forms of social and performing improvisation?
2. Is the notion that jazz improvisation is a function of skill, learning, and practice antithetical with the notion that jazz improvisation is spontaneous and creative?
3. If the model of expertise development (practice) is indeed an appropriate way to better understand and teach improvisation then what is the theory behind how improvisation works?
4. Foucault's second method of analysis is called genealogy. A simple view of the term is to examine not the origins of things but how the origins of things are constructed. This is a twist on the traditional notion of the genealogy.

What is the Genealogy of Improvisation?

I suggest four broad "discourses" of improvisation as examples of many. Each discourse creates its own unique improvisatory subject.

1. Business

Improvisation is an example of a discourse that suggests a reaction to linear forms of management. It is part of a movement that embraces flexibility and innovation. Agility, flexibility, and innovation are codified in management as an attempt to create a more democratic culture in the service of increased value and profit. Improvisation and democracy are at the service of capitalism. Improvisation arises out a movement that creates value, not necessarily from efficiency of systems, process, or machines, but maximizing the energies of people.

2. Music

Many strands of Western and Eastern music improvisation may be considered a return to the historical discourses of music, particularly Western classical music which contained strong improvisatory roots before the advent of the mass publication of lyrics. In a sense improvisation represents a non-textual era of music where notation and the note-for-note “reading” of music did not commonly exist.

3. Sport

Improvisation arises from a discourse in sports psychology which is aligned with the modern commodification of sports competition. Its ideology is inherent in the pressure of “in-flight” performance, particularly on those sports which depend more upon the spontaneous creative

problem-solving of its players rather than systems play. Improvisation in sport is also a discourse in relation to expertise and nonconscious forms of practice.

4. Knowledge

Improvisation in general emerges from an intertwined and interdisciplinary discourse concerning the philosophical underpinnings of phenomenology, dramaturgical studies, consciousness studies, performance studies, and neuroscience. This space uses the discourse of improvisation from a number of areas without one commonly realized definition.

Analysis

Foucault's strategy of examining how humans construct a lineage for a particular certainty or understanding helps us see the term improvisation as constructed, unstable, and contested. Improvisation is used by humans to document and practice what appears to be unconscious, creative, and mysterious. It resides in the space between sign and signified much like performativity itself where action and behaviour reside. Improvisation is thus rightly studied as a performance, and it may well be a site of new performance which can be initiated by anyone rather than by the dominant jazz understanding which sees improvisation as a sequentially learned example of expert behaviour.

I posit that improvisation is an ideology of essence. It attempts to re-capture a sense of embodied mystery without being overly metaphysical. It has its feet in two traditions: in modernism which attempts to rationalize and celebrate human creativity, and in postmodernism which tries to show that human efforts to find certainty are only human efforts

--thus revealing agency as subject-less and de-centered.

To consider improvisation this way is to catch a glimpse of how we construct discourse. This brings us to the last method of Foucault, the care of self (Foucault, 1988). Here we have Foucault interrogating the space between personal ethics and the community of the other. Foucault's work in general has been criticized as being an affirmation of the status quo. The care of self method asks essentially the ultimate question: in what way is the subject free? This question of agency and autonomy may be the ground on which all theory, knowledge, and action must be tested. As we have seen, it is certainly an important characteristic of performance studies. Where is the hope in our understanding of improvisation as a discourse of ideology surrounding tropes of creativity? Citationality, discourse, performativity--they all count on the residue of repeated behaviours and actions or restored behaviour as claimed by Schechner. In many ways, improvisation comes through repeated actions. We learn to crawl before we learn to walk. In the space between crawling and walking, the liminal zone of not-yetness (Bloch, 1986), we discover improvisation as an important vehicle of agency and discovery. Improvisation as a mode of self-care, or hope, has three elements:

1. Improvisation as a form of practicing the emergence of the new;
2. Improvisation as a way of repeating and restoring the unfamiliar;
3. Improvisation as a way of practicing an engagement with the Other.

The third category is highly performative and a discussion of this idea properly belongs in the specific discipline of performance studies. A potentially productive discussion of seeing improvisation from the lens of self-care is the work of Judith Butler, an important social and cultural theorist. Butler's intellectual influence is significant, but it is her influence upon politics and sociocultural analysis that might be helpful because her speeches, like the one in Israel (Butler, 2013), demonstrates an embracement of Buber's *I and Thou*, a text that, like

performance itself, theorizes a humanity that is based upon dramaturgical relationship: a oneness that is resultant of an embodied relationship with self and audience. *I and Thou* can be read politically as a form of innovative reapproachment, socially as a means of conquering our colonial egos, and ethically as a means of finding the Other *within* us (Butler, 1991). Butler states that she, like Buber, believes in an Israel where Palestinians also find respect and political membership; however, she does not know how she will get there (Butler, 2013).

Butler and Buber suggest that hope resides in improvisation as an ethical response, a creative and vulnerable practice, a means of demonstrating the hope of the New. Here, I do not articulate improvisation as merely a metaphor for some other practice. It is, in a philosophical sense, agency itself. Improvisation is a grounded practice, where old ways are retraced but not exactly replayed, where the new comes, not from oneself, or from the ego, or the block of one's cultural "ego," but from the engagement of the audience, the Other. From this Other resounds a consciousness of improvisation that is constructed in the space between I and Thou. This embodied view of consciousness, one that is built outside the mind between self and the other, requires vulnerability and empathy (two terms that are featured in our discussion of performance-based autoethnography, the methodology for this study).

Thus improvisation, like Wilson's (2007) indigenist research paradigm (and all meaningful human activity for that matter), is based upon relationship. Improvisation, using the analytical tools of Foucault, is much more than a complex and contested discourse. It is like a performance itself, an emergent postdiscipline. Improvisation at its philosophical and ideological core is of a powerfully dramaturgical nature. It is so because it is irreducibly performative. Improvisation is played for an audience--inside or out. To put it another way, improvisation *improvises* the co-emergence of co-existence.

This co-existent identity is primarily relationally constructed. Thus, improvisation is a discourse that co-constructs meaning as the relationship *between* audience and performer. The

performative aspect of this relationship, according to philosophers like Butler and Buber, constructs a collective sense of agency and hope. Philosopher Bloch describes hope as the paradox of not-yetness (Bloch, 1986). In my view, an understanding of improvisation as primarily a social practice is critical to understanding the term. We may productively consider social improvisation as the performance of co-emergent hope through the relationship of the not-yetness of I and the Other. Oliveros's Deep Listening and quantum improvisation are profoundly connected to relationship and hope. Quantum improvisation locates hope in the ethical co-emergent improvisation of human and machine. What follows next is a summary of this section and an account of this kind of improvised performance with Oliveros, her group *Triple Point*, and a listening machine known as FILTER.

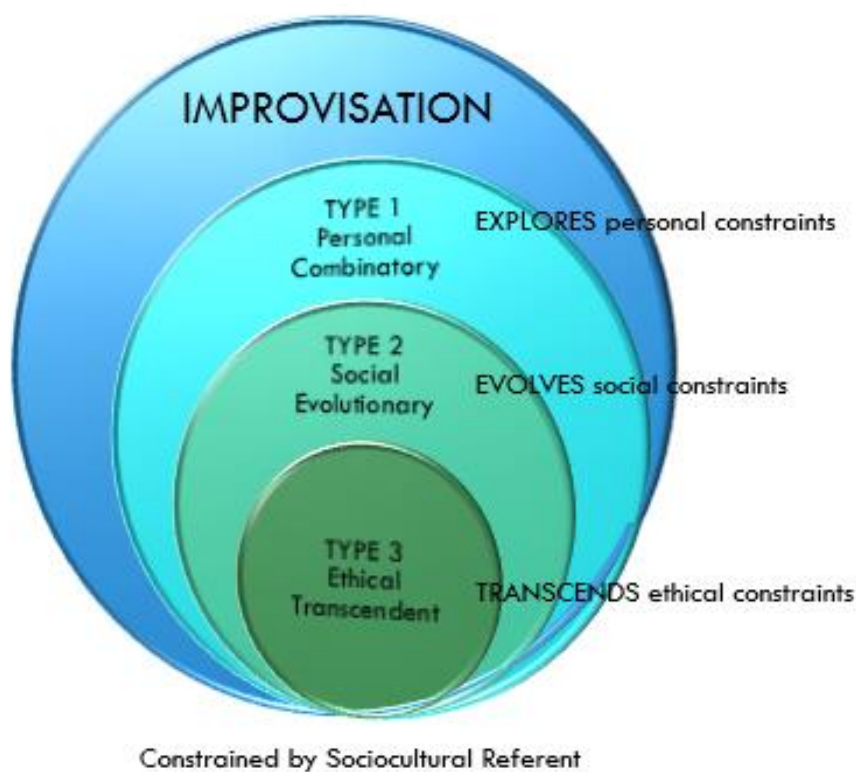


Figure 7 -- Theory of Improvisation

MOVEMENT II: PERFORMANCE ETHNOGRAPHY

Statement of Intent

At the end of this performance, you will know us, you will have heard us, and you may be altered.

I am your ethnographer and that is my promise. My task is to transport you safely to another world. Have you ever experienced an art form that felt like it was transforming as you were experiencing it? Have you ever read a book that moved in your hand?

Have you ever been surprised through art? You feel very faintly the artists' consciousness in the work, the controller of the art, and you feel at some point, a slight loss of control perhaps, an increased connection outside of the creator's control, and the art starts to slip away from expectation, it starts to build something unexpected.

Do you know the feeling?

I invite you to experience the story of Pauline Oliveros and *Triple Point* producing this experience through sound and machines. I will be your guide on this journey. Even if you don't want to, you will learn something about me and the band. Because it is through my journey, you will experience a little bit more of me than is typical in academic writing, so I hope this is acceptable to you.

You may never get to be in the studio with them as they improvise with a sentient machine. But you need not be there, if I do a good job.

How do you hear music through writing?

This is why the methodology of this study chooses performance ethnography. I need to tell you how I listened through my body, what it felt like to be in the room, and what it feels like to be close to them, to be accepted by them, to hear them together--for that time.

I need to express to you what happened to me that one summer in August. With respect to the first peoples that came before us, I also need to tell you what it felt like to be on the land and do my best to acknowledge the land.

When artists improvise, most sensitive people can probably feel the difference. You can, if you're lucky, feel something slipping or lifting. You sense a "take-off." This may be what you feel in the company of Oliveros. But let's be very clear, you do feel something different when there is a machine involved.

Improvisation between humans can be magical, if I can use the term, but what might the experience be like with a machine?

What does the machine have to say to us? Through us? What does the machine dream about? What does the machine tell us about the sound of its own yearnings, the sound of the land, the sound of our two worlds, human and machine, colliding?

I will try to tell you the story.

This collision is exactly the sound I want to contextualize, explain, theorize, but most importantly, describe in a manner that you will allow you to truly hear it. I want to take you there, to this place that Oliveros calls Deep Listening.

I want to respect, privilege, and ceremonialize where the listening comes from and where it goes. Where does the listening go?

No, I am not one of those anthropologists who journeys to South America or Indonesia. I did not seek to communicate with a culture completely foreign to my own but in some ways I feel as if I have made contact with something very different.

Troy, New York is a fine city, but it is hardly an alternative universe. They are just like me and you, these musicians in this place, but the music that flows through them, well; it is not exactly as expected.

Join me on this adventure? Forgive the reflective crashing about, the obsession with postmodern theory, the constant need to talk to myself, to listen to myself, to figure out what is really going on. I have to show you this so I can be honest with you about the process, so you can know the steps, assumptions, mistakes, and randomness.

The story is wonderful but it hasn't been easy even though improvisation is one of the easiest, most natural things we can imagine. It is, after all, how conversation works, but improvisation is also, under the right conditions, the most rigorous of human endeavors.

The Hudson River

The Hudson River. Land of the Iroquois and Algonquin. This is a river of history and you can feel the slow movement. Wide like a modern expressway, the Hudson Valley expands for many miles, and the green of elm, fir, and oak is only interrupted by church spires, smokestacks, and bridges.

Artists occupy this land. Composers like Pauline Oliveros. Writers like Richard Russo, William Kennedy, and Caroline Ione, Pauline's life partner and collaborator, as well as significant performance artists like Linda Montano, Pauline's life-long friend and former lover.

This park in Troy has been named Prospect Park. Prospect can refer to direction, view, likelihood of success. Even the exploration for minerals. Prospect Park sits high at the top of the Hudson Valley overlooking Troy's downtown.

Prospect.

I park and look south toward the city of Albany. You can almost imagine the Hudson Valley as it looked before European contact. You can imagine the river as a highway before the advent of asphalt. You can smell the flat water and sense the deep currents. You can almost hear workers hammering and cutting bluestone in nearby Kingston and sending it on barges downstream for sidewalks in Brooklyn Heights.

Boats of all sizes and shapes have moved up and down the valley in the last four hundred years. These patterns were repeated by the Dutch, British, Germans, Irish, Italians, and many others. In the sixteenth century, this was a Dutch colony. It was also where the British fought the

Americans, one coming downstream, the other upstream. When not fighting or trading pelts, the Algonquin and Iroquois believed the river represented their prospects, constantly moving, swirling, and sweeping everything downstream.

I put the rental Civic into gear and meander around the park. When Henry Hudson sailed up the river in 1609, he had to stop near Troy because the river was too shallow. There is another viewpoint in this park where I can see the city with its many church spires. Down at the water, there is still boat traffic, river cruises, and sail boats. But there are natural places, too, in the calm, deep, navigable tributaries of the Hudson that allowed port towns to sprout, where activity was concentrated around the river.

This is not so apparent anymore. How do we know where the river is deep?

A hundred years ago, fancy stagecoaches were used by wealthier city people on the weekend, so that they could attend races at Saratoga Springs. Today they arrive by limousine after flying into Albany International Airport, so named, according to my cab driver, merely because Air Canada stops there. And in many stretches along the river you will see little human impact upon first glance, especially on some of the tributaries like Rondout Creek. Rumour has it that the fish are less toxic now.

I feel a sense of excitement in my body. I've been preparing for this for some time. I arrived by air a few days before. I wanted to allow my body to become adjusted. I only have a vague understanding of what this means. The travel takes its toll, to be sure; but there is some kind of physical impact when you've been transported such a long distance. The time change causes some disorientation; there are different foods; the water tastes different.

The air is heavier, thick with humidity. I find myself not wanting to fixate on an awareness of myself, so I close my eyes and breathe. I listen. Not to the sounds of this park and the city below. Not to the sky with its scattering of aircraft. Not to the buzz and hum of Troy, New York. But to myself, the machinations of my body in this space. I breathe. I try to begin an awareness of what I am doing here, and suddenly I've forgotten.

I just don't know why I am here.

Back in the car, I drive sixty miles from Troy to Kingston. Kingston was settled in 1651 and in 1777 was once the capital of the state. I try to imagine the British fighting near the area in the 1777 Battle of Saratoga, but that remains difficult. I'm thinking that if I drive another ninety miles, I'd be in New York City, home of 8 million people, speaking as many 800 languages, according the US Census Bureau.

But I'm not going to one of the world's cultural capitals. It is Sunday. I'm going to Pauline's home in Kingston for her annual summer party, and then I'm meeting her for the rest of the week at the music studios in Troy.

I allow myself to think of myself as an explorer, searching for my prospects. In the back of my mind, I can't help but think that as an anthropologist, or more accurately a performance ethnographer, I must be mindful of objectivizing my subject, of not reflecting and recording just my own influence. I must also enact the important requirements of respect, relationship, and reciprocity that I learned and adopted in my doctoral studies. I wish I had more practice at this. I know there is no script; there is no set path; like Pauline Oliveros, I must embrace my own practice of improvisation.

My name is Sae Hoon Stan Chung. I'm the son of Ji Won and Sook Ja Chung. I was born in Seoul, Korea. I have lived in many places. I am married with two teenage children. I am writer, an artist, an administrator, and a teacher. I have been the perennial Other in my life, the new person, the outsider, the one who must fit. The new is familiar territory. At least that is what I am saying to myself. The fear is an old one. So old, I can scarcely feel it anymore.

But this is my performance, too. What are my prospects? What will I discover? About my subject? About myself?

All this seems new to me, especially the prospect of reciprocity, as it must have to be Henry Hudson and all the people who visited this valley where indigenous people once lived in abundance.

I am an explorer in a new country. I must step carefully, listen deeply, and be mindful of what is going on inside me.

Where is her house? I roll down the windows of this rental car. What river is this?

Pauline Oliveros was born in Houston, Texas. She was raised mainly by her mother. She is one of the central figures in post-war experimental electronic music.

Along the banks of this river, there is a mix of evergreen and deciduous trees. There is pine, elm, willow, and sumac. The ditches are filled with wild roses. Many of the homes possess three

stories. Third story windows often contain air conditioning units. It is hot and humid. I am glad there is air-conditioning in this rental car.

There are flowers blooming still. It is August. Bright yellow daisies. But in the main this town is green.

Oliveros lives a block or two from the river. There is a baseball field down there and a nice riverside road that meanders along with the river.

Her house is grand. There is the classic porch. A long side yard, wide double carport.

Is that her?

Garden Party at Pauline's

Sunday – A Drive to Pauline's Home in Kingston, New York

David Gonzalez is an artist and former music therapist. He has a PhD in music therapy and now presents multimedia performances to audiences throughout the world. He is sitting with me and Pauline at her annual summer party.

"I'm recording now with *Triple Point*," Pauline says. "Then I'm off to California for a Deep Listening Workshop."

“It’s a busy year. So what are these Deep Listening workshops?” He asks. I cringe because I suspect she’s been asked this question a million times. But she is calm.

“Well,” she says, “I’ve been doing them for twenty years now.”

“David,” I say, “you haven’t read her books?” I smile because I’m teasing but also slightly annoyed.

“I’m curious. We’ve played music with a lot of the same people. What do you do in these workshops?” David picks up his chair and moves it closer. The chatter of many people surrounds us.

“Well,” she says. The sky is darkening. When I arrived at 3pm, the rain had stopped. David Gonzalez is a spoken word poet and storyteller. He works with music to create performances that have captivated audience all over the world. Deepak Chopra is quoted on his website. He moves closer to Pauline. She doesn’t look uncomfortable but she has taken a long pause.

“I won’t know until I get there, David,” she says. “This is part of what Deep Listening is.”

“I see,” David says and smiles. “The workshop is improvised?”

“Well, yes and no,” Pauline says. “I’ve been doing it a long time so there are a variety of tools that I can use.”

“But you need to look into the eyes of the participants first,” I say.

“Well, yes,” Pauline states, “but there is more.”

David is a tall man. He is in his mid-fifties. He wears a linen shirt. He, like I, is meeting Pauline for the first time even though he has known her for a long time via Skype, email, and chat.

I have to be prepared but it’s not the kind of preparation where you know what you’re going to do. It’s being prepared to be a deep listener myself.

“You mean like you have to model Deep Listening?” I ask.

“What is Deep Listening?” Hmm. David and I overlap our questions. We are sitting on plastic lawn furniture. My body is a bit twisted to the side. Pauline looks comfortable. David is asking Pauline the same kinds of questions I’ve come to ask. But I feel like he hasn’t really paid his dues. *I’ve* read her books, I want to say again. I have the irresistible urge to answer his questions, but I don’t. I can see that Pauline is very comfortable.

This is Pauline and Ione’s summer party. Their friends and neighbours are here. Over there, scurrying about with slices of watermelon is someone very famous. Suddenly, I can’t remember her name. I will need to stand by her, perhaps engage her in conversation.

“The most important thing for me, the preparation I must do, David, is for me...to be a deep listener,” Pauline says.

"I see," David says.

"These workshops are about finding a space for us to work on our Deep Listening skills."

"Does this Deep Listening change you?" I ask.

"There are no guarantees," she says and then she smiles.

And then there is a sharp cracking sound. We all turn our heads. We hear more sounds, the movement of something through the trees in the large side yard of this home.

Wisshhhhhh. A tree is coming down.

The party stops. The tree moves past others trees, skidding across them, stripping leaves, crashing through smaller branches and limbs, and makes a single bounce on the leaf-strewn grounds only feet from Pauline and Ione's lawn.

We get up from our chairs to investigate. "It's just a tree!" "It's that large one!"

"Wasn't that a marvelous sound," Pauline exclaims. David laughs. He says he must be going. We exchange business cards.

"So, you're studying Pauline," he says warmly.

“Yes,” I say. “I’d like to hear what you think about improvisation and Deep Listening, especially in the context of someone who was a music therapist.”

“Of course,” he says. He offers his hand.

“Does anyone want more watermelon,” says the woman. I take a slice. It is still so hot and muggy, and the watermelon tastes so cool and delicious.

“She is the most present and grounded person I know.” I know who she is now. This is her. This is she.

“Another slice,” I say.

Linda Montano

Meeting Pauline Oliveros this afternoon was a momentous occasion for me. I drove to Kingston early, drove around, went back and forth in front of their house several times, and I was still the first to arrive.

Pauline and Ione were on the porch of their four-story grey and yellow Victorian home with their purple fence and large side yard.

I snap a picture of them and Ione snaps a picture, too. And we embrace. It is grey and hot and

humid and I feel like I've never been happier. It has taken me years to get this porch; it has taken me years to stand in front of Pauline Oliveros.

She is everything I have imagined and more.

"I'll have another slice, too" says Linda.

Linda Montano is a famous performance artist. Her Wikipedia entry is very long. Mockus (2008) discusses her for fifteen riveting pages in her book length study of Oliveros. I have read the book many times. Montano was once Pauline's lover. They met in a highly dramatic performance art event in 1975 when Montano wore a blindfold for three days. They co-performed with Oliveros not speaking for duration. They were lovers until 1982. The account of their dramatic relationship and their poignant art-making is difficult for me not to remember.

"Do you live nearby?" I ask standing beside her with my hands in pockets.

"Yes, I don't live very far away. It's a beautiful summer party. I'm performing right now."

"Really?"

She is light on her feet this woman, I think. We stand shoulder to shoulder.

"I am," too. There is a long pause. "Performing, that is. What is *your* performance?"

"Where you live your art."

I am a bit stunned, so I stand there nodding. Linda Montano is a very young, energetic, and sharp seventy years old.

We stand there talking about Pauline. Linda is funny, articulate, and wise. I can tell by her words that she is not only an artist but a spiritual person. She mentions that she is a Catholic and former Buddhist. In one moment, she is light and she is serious. She is the kind of person anyone would travel across the country to meet.

I leave the party after a couple of hours because I am overwhelmed. I can't take this much fun. I drive away, and I park beneath a bridge in Rondout to use the washroom, and then I speak into the iPhone microphone about my experience. I scribble copious notes. I breathe. I question my memory. I wonder about Pauline and Linda and their friendship of fifty years. I wonder about Pauline and Ione. I think about their house and the quick tour Pauline gave me of their front rooms and kitchen. I wonder about myself and my ability to perform on this stage.

"What is Deep Listening," David asks.

"It is being a deep listener," Pauline responds.

"Hmm."

"Deep listening is a philosophy and a practice. It distinguishes between the involuntary nature of hearing and the voluntary selective nature of listening. It is encountering yourself and the

world through listening. Listening to yourself, to the sound of your mind, to the beat of your heart, to the sounds of the external world and all its variant music.”

“Yes.”

“You see, David, deep listening provides the artist or the participant a framework. It’s a way of exploring, interacting, and improvising for musicians, and you know, artists of all disciplines, a way of being together, collaborating.”

“Hmmm.”

“Deep Listening is experiencing heightened awareness of sound, silence and sounding.”

That is precisely how Pauline Oliveros speaks at parties.



Figure 8 -- Warm Welcome from Pauline and Ione

First Day at EMPAC

It is a humid and warm day in August. I stand outside the hotel lobby and walk toward the street. The hotel room where I've decided to stay is walking distance to the Rensselaer Polytechnic Institute (RPI). I map out where I am to walk. I'm not familiar with this area. It has seen better days. Most of the Victorian era homes have been turned into rooming houses for RPI students. I walk past a small grocery, neighborhood garage, and a few run-down restaurants.

RPI is built on a hill overlooking the city of Troy. I walk down the hill and into the university which possesses a traditional charm. It is empty at this time of the morning. Experimental Media and Performing Arts Centre (EMPAC), which is a mammoth piece of modern architecture, contains a large auditorium which appears to floating in the six story structure. The views from EMPAC extend to the entire Hudson valley. I can see the river going south toward New York, and I can see it going up towards Canada.

The city of Troy from this vantage point appears filled with sharp spires. There are many beautiful churches and the architecture appears virtually untouched. Rather than talk about Troy's beauty, the literature I have read about the city discusses the fact Troy has been forgotten by progress and the developer's hand.

EMPAC, though, is a different story.

This is a magnificent architectural wonder that is a statement about the nature of art, the primacy of performance, and the fundraising prowess of Shirley Jackson, RPI's president who found an anonymous donor willing to entirely fund this structure. This is a \$250m building. I

cannot help but be impressed.

There is a stark contrast between where I was yesterday in the lush, character-filled grounds of Pauline and Ione's home in Kingston, New York. This building is sleek, modern, bursting with institutional power. I stand looking at the city of Troy and reflect on Pauline.

In a way this building cannot be Pauline, but it is. Even though I have read her books, listened to her music, toured her home, and met some of her friends what I am struck by, what has filled my sense of her is not the authority of her reputation which is considerable and continues to build, but the humility of her essence. But being confronted with this building brings out another aspect of Pauline that is perhaps just as important.

More than anything, EMPAC is about technology. This is a building where every room is as tunable as an instrument. The space *is* an instrument, potentially a part of the performance. But the technology is nothing without people to help it come alive. So the building is pregnant with possibility. When I walk inside it is quiet, except for the faint whisper of its state of the art ventilation system. The air is cool. The tone inside is neutral. It feels purposeful. It feels like a performance space. It has a sense of luxurious attention to the artist. This is all Pauline, too-- this connectedness to the modern, to what comes next, to where technology can take you.

Never in my life have I seen such a structure dedicated to performance. It is said that even though RPI is known as an engineering school, this is one of the institution's most significant legacies.

READ ON MY IPHONE

TROY.NY is a hidden jewel in the American landscape. The birthplace of the industrial revolution and one of the nation's wealthiest cities in the mid-19th century, Troy was left behind as industry and lifestyles changed. But while other cities were decimated by short-sighted urban renewal and suburban exodus, TROY.NY withstood the ravages of time, preserving much of its irreplaceable architecture and historic character.

Throughout the city beautiful old buildings remain, still affordable and still accessible to those with vision.

Retrieved May 7 2014 from <http://www.visittroyny.com/aboutTroy/aboutTroy.aspx>

I am standing just outside EMPEC and looking down at the white spires of the city of Troy, New York. I feel the warm wind. The humidity of August. Dust in the air, too. Perhaps there will be an afternoon thunderstorm. I don't know--the air outside feels heavy, robust, industrial, well-breathed by nature, humans, and perhaps machines.

Are buildings machines? Can we call mechanical ventilation breathing?

It is just before 9 in the morning. EMPAC's glass doors remain closed. I take in the vista behind me. A few people walk the grounds of the university. I hear the distant sound of beeping. Early morning deliveries. The computer science building with its stone face seems to be a popular destination. I see two Asian students enter the door using a keypad, one young woman balancing four cups of coffee in those egg crate style holders. Computers and Asians and Starbucks. That could be me.

A gust of extra warm wind hits my face and I can suddenly smell dry grass, agriculture, and a distant ripeness. It smells like Saskatchewan, where I once lived as a child. I look across the Hudson valley. Trees and light aircraft in the distance.

Troy, the great city of Greek and Roman mythology.

A forgotten ancient city unless you've read the Iliad and the Odyssey--the epic poetry of Homer, or seen the miserable 2004 picture starring Brad Pitt. Why did they name this city in the middle New York state--Troy? The city founders named it in 1789, according to the guidebooks. Once and still the territory of Mahicans, a confederacy of indigenous tribes, first contact with the Europeans occurred in 1609. By 1789, the Mahicans had been pushed out to Massachusetts. They were again relocated to Wisconsin under the Indian Removal Act of 1930.

The general term 'Mohican' has been used to refer not only to the Mahicans and their kin the Wappingers, but also to six or seven other Indian tribes lumped together as Mohegans by early colonists. The confusion between these eastern tribes was worsened by James Fennimore Cooper's book *Last of the Mohicans*, which incorrectly merged the Mahicans and Mohegans into a single, extinct Mohican tribe. In reality the Mahicans and Mohegans have never been the same tribe, and neither group is extinct.

Retrieved from <http://www.native-languages.org/mohican.htm>

Troy is located in what today is Turkey. Homer writes about Troy as the setting for the Trojan War. The Trojan War was, incidentally, about love.

Perhaps the city fathers were thinking about this city and others with classical names (Syracuse, Ithaca, Rome) being the site of epic battles between indigenous groups and Europeans? Or

perhaps there is a love story behind it all, as Wikipedia suggests:

An early local legend that a Dutch girl had been kidnapped by an Indian male who did not want her to marry someone else gained some credence when two skeletons were found in a cave under Poestenkill Falls in the 1950s. One skeleton was female and Caucasian with an iron ring. The other was Native-American and male.

Retrieved from http://en.wikipedia.org/wiki/Troy,_New_York

The glory of love and war--is that what the early European settlers thought of this city with its strategic location in a wide valley with the swift waters of the Hudson below? I don't know. EMPAC provides views of the valley with the city of Troy directly beneath it.

The city has seen better days. Troy was once very wealthy. The church spires are still there, but the development has occurred elsewhere. But that doesn't mean this view, this display of two hundred years of American architecture, isn't beautiful and remarkably untouched by modernity. Medina sandstone, in a deep red brownstone, was used on many of the houses and institutions. Medina is a city on the Erie Canal that is a couple of hours West by automobile. The brownstone featured in the revival architecture in Troy was shipped on barges down the Erie Canal and Hudson.

EMPAC is probably one of the newest buildings in Troy; and it seems in some kind of dialogue with the buildings below. The technology in EMPAC; the absence of technology in the others; the 80 year old woman named Pauline Oliveros who bridges both sites. I know that Pauline's RPI office is in one of those century old buildings in downtown Troy. No air conditioning. Low ceilings. Beautiful old offices with granite staircases and slow elevators where work can still be done.

Once the doors are open, I enter EMPAC. There are stairs on either side of the main auditorium which is many stories high. The main auditorium is acoustically isolated; the studios are also acoustically engineered with the ability to provide maximum spatial, visual, and auditory flexibility. I have never seen this kind of performance and research space. I am headed to the studio where I am to meet Pauline and the two musician/professor/researchers that make up *Triple Point*, Doug and Jonas.

I wander around. Take a few elevator rides. There are no obvious security people. People walk by wearing tools on their belts. There is one person, probably a student, at a reception counter typing something on her phone. There are no posters on the wall. No visual pollution. There is one poster outside: EMPAC is where the university gathers its first year students in September. I can see why they do this. It is a striking and unusual building.

Its emptiness is striking. It is the kind of space that only comes alive when people arrive. Right now. It is waiting. It is poised. It is silent. Where are they? Am I too early?

I push open the side door to Studio B. The front doors are closed, but I find a hallway and come through a very heavy bank vault type of door. I am standing in a cavernous black box.

It is a signature space. I can do anything here. I can be anything. There is one table with a chair arranged in a haphazard fashion. I sit on the chair and then stand up again. I'm in Troy, I say to myself, waiting inside an empty black box.

A long time ago, I took a few classical studies course at the University of British Columbia. Some say the poet Homer is the creator of Western persuasion and argument. We may still live in the

age of Troy. Our use of language has not changed very much. Love and war, yes, they still exist, too.

Sitting in my hotel room, walking through dilapidated streets, entering EMPAC, standing in this black cube-like studio with 40 feet ceilings, and I am now feeling extremely insignificant.

What am I doing here?

I touch the walls. Black acoustic panels jutting out from the wall. Hard rubberized material with a textured surface. It feels very expensive, like it was designed by George Lucas. Hanging high above are black acoustic cloth panels. Rows of lights sit above the curtains. Gangways, too, places you can climb, hang rigging. I don't really know what rigging is, I chuckle.

How will I perform in this space?

I listen. I can hear the slight movement of air above. Once the doors are closed: I'm basically listening to myself in a vault. I stamp my foot. There is little reverberation.

I taste my own dislocation. But first I must check for emails. Also, I must check the wireless signal in this space. I measure a room by its wireless signal. Yes, I must get my tools ready. I must prepare my instrument, my heart. In my pocket is this blinking heart: my smart phone. This is my connection, this iPhone 4s. Inside the circuitry and carbon of this phone are my identity, my connections, my community, nearly my everything. It connects me to spaces outside this space.

I contemplate turning it off.

Maybe I should turn this gadget off, I tell myself again. I need to calm myself, return to my soul, and find a sense of Zen space in here. More importantly, maybe I should turn it off to save battery life? Maybe not. Where is that recharger?

Musicians are the same everywhere. Nobody is on time.

I check my iPhone quickly. I cannot resist. According to a website maintained by the Native Languages of America, there are 3000 Mahicans still living in Wisconsin. They are definitely not extinct.

This is where I am.



Figure 9 - EMPAC, Troy New York

Monday Morning Studio



Figure 10 - Triple Point in Studio

They are setting up. Wires here and there. Moving speakers in. Setting up a digital camera. I've set up before when I had a band. I watch them set up and I feel two things: the two men are constantly in conflict; this is a complex set up.

Triple Point is the name of their band. They say they have named themselves because triple point is the point at which a substance, like water, can exist in three states: gas, solid, and liquid. Obviously, there are three of them. What about FILTER?

Jonas arrives first. Pauline arrives with Doug. There is a lot of setting up to do. Pauline plays a beautiful red accordion. They will play live so they have to set up amplification for her accordion. Jonas plays the saxophone. He is setting up his laptop computer, a Mac, as a recording device. There are numerous microphones he sets up so he can record their playing. He also sets up an HD camera.

Doug's set up is a bit unusual.

Doug van Nort is the youngest in the room. He does not play a conventional instrument.

"He plays a laptop," Pauline says.

Now that comment might sound simple, but the set up and what is contained in his Mac laptop is not that easy to understand.

The laptop is connected to a mixing board which is connected to microphones and direct inputs. There is a direct input from Pauline's digital accordion to Doug's mixing board. The mixing board is connected to Doug's laptop. But we are talking about inputs here.

There is also an output.

Doug's laptop also plays. But there are two musicians: the first musician is Doug himself. He can play the laptop using pen and a digital mouse pad. He can distort and sample music either live as he hears it or he can select from a number of stored sounds. These stored sounds can be from previous performances or they can be from the current performance.

Doug's laptop also includes another performer: this performer's name is FILTER. The name stands for Freely Improvising, Learning, and Transforming Evolutionary Recombination system. Basically, FILTER is an artificial intelligence agent. FILTER does not play music from a set database of sounds. FILTER plays by listening, selecting, and then playing back.

FILTER is a real-time improvising agent that is the result of ten years of Doug van Nort's work, first as a graduate student, PhD candidate, and now as a post doc.

"Is FILTER going to play?" I ask.

"FILTER requires a monitor speaker and more cables, so FILTER won't be able to play today," says Doug.

"We can play without FILTER," says Jonas.

"Sure," Pauline says.

Pauline and Doug arrive at ten thirty. Jonas at ten. I've been here since 8:45am. I decide to sit in the corner behind the camera. They set up in the middle of the room. There are two tables: one for Doug and one for Jonas. Because Jonas is recording the session, he acts like the producer.

In most recording situations, there is a separate producer. Having a fellow musician take on the added role is often very challenging as you must jump between being worried about the technical aspects of the recording mix and being concerned about your own performance.

As they set up, Doug and Jonas begin having conversations. It is clear they do not see eye to eye on nearly every topic.

I am listening to their banter while seated on a padded black chair in the corner. Pauline's set up is relatively simple. She unpacks her red accordion and waits for Doug.

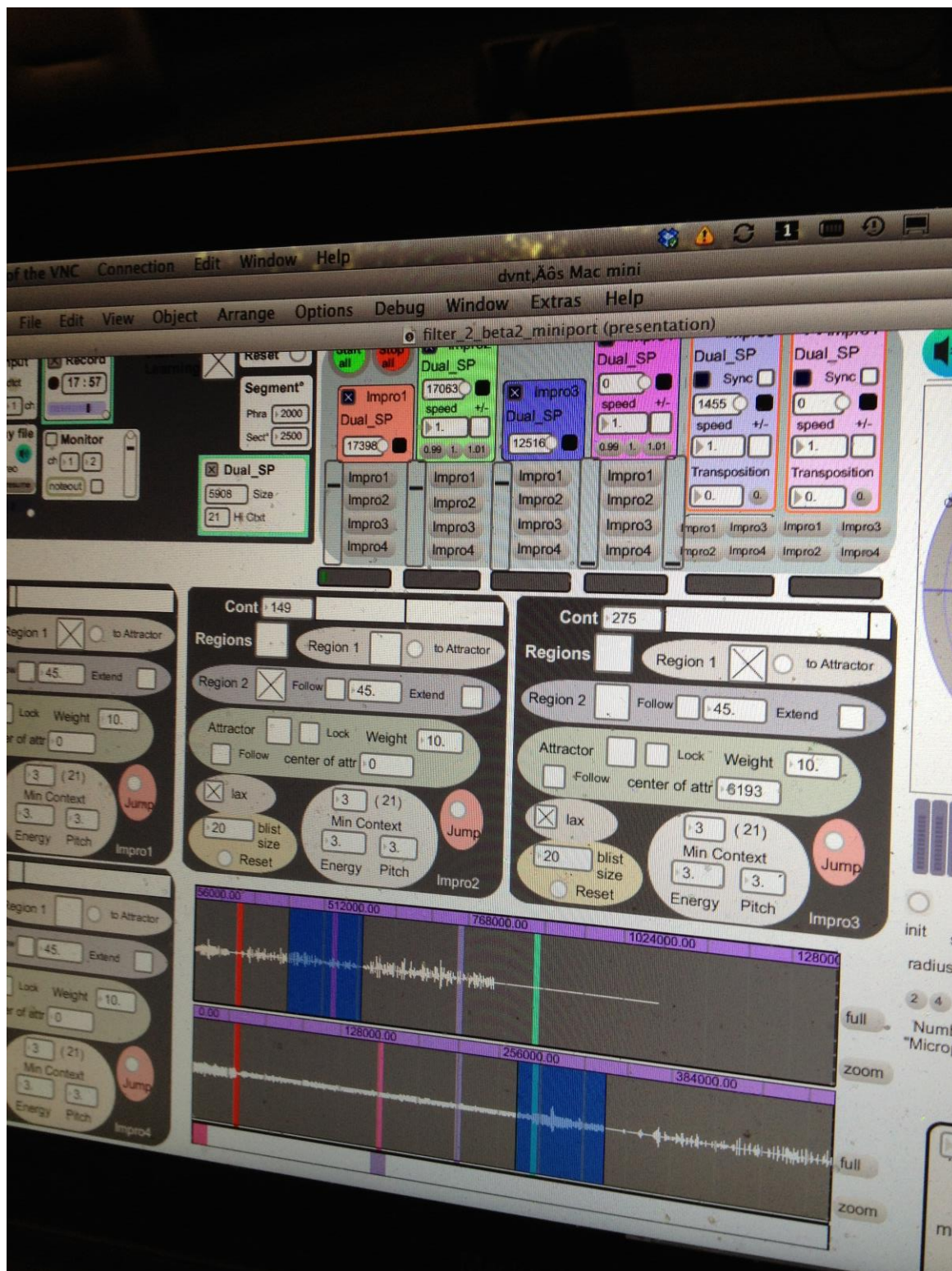


Figure 11 - FILTER Interface by Doug van Nort

Monday Reflections on Bandwidth

I am struggling. I can't, for some reason, catch up to what it sounds like to hear Pauline and *Triple Point*. I feel disoriented. I have to think about something else. I want to think about being prepared to listen.

This is about me trying to write about listening to listening.

I hear an enhanced and very wide bandwidth in Pauline's music where the frequencies suggest a range that includes the inanimate, the human, and the bio-animate (the living planet). I do not hear this spectrum of sound as one might hear instrumental or orchestra or filmic music— instead, I must call this sound before I can call it music, even as it is both; it is as if each distinct spectrum of the universe is able to voice its distinct existence without overlap or confusion. And in recent discoveries about the aural frequencies that exists in the voices of insects and animals, it is clear that there is a range of bandwidth for all sound, no matter the source (Krause, 2012a).

Krause (2012a) terms this notion of bandwidth, a soundscape. He argues that insects, for example, possess their own frequencies in the soundscape of an environment. These niche frequencies allow a richness and a distinctive place in the chorus. A soundscape according to Krause contains three elements:

the geophony, which includes all nonbiological natural sounds like wind or ocean waves; the biophony, which embraces the biological, wild, nonhuman sounds that emanate from environments; and the anthrophony — man-made sounds, commonly referred to as noise. (Krause, 2012b, para 4)

Does the notion of frequency bandwidth appear at the beginnings of Oliveros's work? I think the answer is yes. There is an intense focus in the mid-sixties where she combines inaudible sounds to produce ghost notes or third notes using those inaudible to the human ear frequencies, not to mention Pauline's childhood memories of listening to nature. In 1953 when she is 21, Oliveros receives an Eico tape recorder from her mother for her birthday:

My first impulse was to put the microphone on the windowsill of my San Francisco apartment and record whatever was sounding outside. I learned that the microphone was hearing sounds that I missed while listening during the recording." (Oliveros, 2012, p.123)

Oliveros is fascinated by the discovery of sound as if she is an explorer traversing the territory of the moon or diving into deep ocean trenches. This focus becomes Deep Listening, as Oliveros reverses the notion that sound is something that is objectively perceived. Instead, sound is a function of the skilled listener to hear and discover what is undiscovered. Oliveros, like many of her San Francisco contemporaries, believes that there is much more in the unseen world of sound than is immediately perceivable. You hear it in Oliveros's first recording, *I of IV*, which anticipates with its complex array of tape delays, ghost notes, and frequency modulations an understanding of sound design that only becomes possible through the use of microcomputers many decades later.

The notion of bandwidth is created in a different way by FILTER, the artificially intelligent musical agent, created by Doug van Nort. FILTER creates music by listening, selecting, and playing back in unpredictable ways that which it is listening to; in some respects, FILTER is another way of listening that Oliveros is experimenting with. Once again, she is an explorer, going after new discoveries. It is this decades-long focus on sonic consciousness that differentiates Pauline's view of improvisation from other practices and theories that seem far

less rigorous and much more simplistic. Oliveros's views on improvisation actually turn most conventional views of improvisation upside down.

For example, her improvisation is rooted in active listening, not necessary in the technical merits of playing. For Oliveros, the playing part is less emphasized than the listening part. This is why she eagerly welcomes non musicians into her performances. Moreover, the playing part (performance) is united with the practice part in Oliveros's work, revolutionarily breaking the practice vs performance paradigm that is a significant part of the jazz myth of improvisation, where there is distinct line between practice and performance. For most other performers, the playing part is usually what is emphasized because that remains the so-called "productive" aspect of music.

On the contrary, for Oliveros, the productive part is actually the listening, trying to increase one's hearing bandwidth, to hear more things, hidden things, things that offer the promise of transformation. Therefore, her focus on listening evolves and perhaps revolutionizes the notion of performance. Another singularly different aspect of Oliveros's work which stands in contrast to many others is that Oliveros insists upon listening to her own improvised recordings.

Why?

This is entirely consistent with her theory of improvisation. Oliveros is more interested in listening than in playing. She listens twice: once when she plays; again when she plays back the recording. The loop here is not double playing, but double listening. And in the listening is revealed more of what is not present in the consciousness of the player who originally performs. This is an important distinguishing characteristic of Oliveros's view of improvisation. This kind of consciousness reverses conventional notions and suggests that her theory of improvisation remains heavily balanced on the input side, rather than on the output side. The

musician who listens to her own improvisations is not aiming to be more a productive improviser. Then what exactly is the purpose? For Oliveros, the musician may be using improvisation as a vehicle for something that goes beyond musical performance toward what Oliveros terms sonic consciousness.

Script - Monday Lunch Interview

FADE IN

Stan and Pauline are sitting in the cafeteria at EMPEC in Troy, New York.

STAN

You know I've been mulling over what you were talking about last night about the agent.

Stan reflects back to the previous day.

CUT TO

Thunder over the sky in Pauline's and Ione's backyard. Everyone scurrying. David, Stan, and Pauline hunched in lawn chairs talking.

CUT BACK TO SCENE

Pauline sets down her backpack. Stan checks the recording levels on the iPhone. He looks like he's trying not to worry about it.

PAULINE

Yes?

She smiles, opens her backpack, and begins to unwrap a sandwich.

STAN

One of the things that, uhhm, there's a psychologist of improvisation [Pressing] who talks about improvisation having a musical referent so basically improvisation happens within a musical tradition. Right? So you know whether it's jazz or whatever the genre you do it... We just wanted to do that... So this thing called a referent considers improvisation as happening within a structure or a form. That's his idea.

Pauline nods and leans in.

STAN

My idea is that referents are also social-cultural--that it's very hard to go outside your own referents because you know you've been socialized to think of music in a certain way. So you wouldn't necessarily play outside your tradition unless you were conscious of your tradition and that's very difficult to do.

The iPhone sits in the middle of the table.

STAN

And then there was John Cage's view, I don't know if it's famous or not, but his view of improvisation was that it wasn't that interesting to him because you couldn't improvise a structure. So he always saw improvisation as constrained by the referent of the either the musical genre or the social cultural constraint--so when you were talking about the agent (FILTER)--its referent was really you,

right?

PAULINE

Hmmm.

STAN

It doesn't have...like, remember David (Sunday afternoon party at Pauline's) was saying, you know, what's the "database" that starts it off, right? He was looking for some kind of... so that's much different... so the referent is you, so that's an idea that nobody has because, you know, you, one of the things you say is that the music changes you, you're not saying that it's about the music out there, right?

Pauline watches a bird land on a table outside.

STAN

The music comes from, the music is created within you. If you are the referent then the improv is only as good as you are and if you are connected to, um, the universe, I don't know how else to say it, then the referent is as free and as unconstrained as you are, in terms of you being a connection to this sort of universe and you being a set of perceptual sensory...sensations. That's where I see listening as one of those things, it's the way in which we "input" into us but in the recording or in the agent when the computer is just listening to you it really depends on what your database is, right? Right? Is that what your "database: is? Now is that confusing, or what?

PAULINE

No, it's not confusing. I mean I think you're trying to come to some understanding here. First of all I do come from a tradition which is the experimental music or what is

termed experimental music and it was open and that so called experimental music was opened by John Cage when he did four minutes thirty three seconds and he knew what he was doing and the audience didn't know: they didn't know a reference for it. But he provided a reference for it, he provided a concert stage with a performer and an instrument so that it had that reference and then of course the audience was furious because they didn't think anything was happening because they weren't listening that way. So anyways, John Cage was rather mischievous in his, you know set ups, and what he did in terms of indeterminacy and other... I mean that was a very important concept indeterminacy and so I think that indeterminacy is the way the universe runs. I mean you don't know what's gonna happen. We didn't know the tree was gonna fall down yesterday in the garden.

CUT TO

SHOT OF AUDITORIUM

ANGLE ON JOHN CAGE

He signals that the orchestra should begin.

ANGLE ON AUDIENCE

Shock and surprise.

ANGLE ON orchestra gathered on the stage in a filled auditorium.

Cage signals that play should be begin. And there is silence.

CUT BACK TO SCENE

Stan leans in.

STAN

That's right...

PAULINE

I mean we didn't, we had no expectation of that happening, um, so all of the composers, John Cage, Earl Brown, Morton Feldman, all of the New York school, so to speak, who were engaged with indeterminacy were still composing and none of them favoured improvisation cause they were composing and a composer is directing what happens even though there are chance elements or so called random elements and one that... I really don't like the term, aleotonic, elements, you know all of these things are catch words which really when someone gets hold of it unless they really investigate it, open it up, unpack it...then I'm not interested in someone saying it.

CUT TO INSERT OF TEXT

DEFINITION

What is Indeterminacy? Wikipedia says...

ANGLE ON SPARROWS LANDING ON EMPTY CHAIRS AND TABLE

STAN (VOICE OVER)

The classic definition of indeterminacy derives from John Cage, according to which indeterminacy "refers to the ability of a piece to be performed in substantially different ways" (Pritchett, 1993, p. 108). Bryan Simms thus conflates indeterminacy with what Cage called chance composition when he claims that "Any part of a musical work is indeterminate if it is chosen by chance, or if its performance is not precisely specified. The former case is

called 'indeterminacy of composition'; the latter is called "indeterminacy of performance" (Simms 1986, 357).

PAULINE (repeated)

I'm not interested in someone saying it.

FADE OUT

Eating Alone at the Green Shell

Monday night I was hungry so I searched the web for Asian restaurants that I could walk to. I left the hotel in the evening. I was tired of consuming beef jerky and almonds. The hotel has a restaurant, a sports bar, but I wanted something different. Perhaps something closer to home.

There is a mundane shopping mall on the main highway bisecting Troy. It is an easy downhill walk on Hoosick Street. (I would eat at the Green Shell twice during my stay in Troy: once by myself and once with everyone.) It is a take-out place, a narrow box with a wide counter at the front.

I walked inside (doors wide open) and looked at the menu. There are Chinese food menu items in the east United States that don't appear where I come from. It's not like the Chinese immigrants here are any different; the items, I supposed, are customized for a market. General Tsao's chicken is one of these menu items. In general, you don't find the dish in the Cantonese dominated restaurants of western Canada.

The woman at the front is a Chinese woman of indeterminate age. I can never tell these things. I bet she is 40.

"Where you from," she asks. "You not Chinese. You Japanese. No, Filipino?"

"I'm Korean," I finally say. I haven't had this kind of questioning for at least a few months. It used to bother me, but I know it merely comes from curiosity.

"How long you been here," she asks?

“A long time. How about you?”

“About five year,” she says.

“About 47,” I say smiling.

“47!” she says with a grin.

“Yeah,” I say.

I ordered a seafood dish. Something with prawns and scallops. And it was very good. Okay, very good is a bit of an exaggeration. It was very good for Chinese take-out. Clearly, one cannot expect too much from a Troy strip mall in the state of New York in August, according those who post restaurants reviews at [Yelp.ca](https://www.yelp.com).

This exchange I had with the woman at the restaurant is not typical of the exchanges I have had with Asian people who own restaurants. Usually, they’ve lost all interest in asking questions of fellow Asians.

The “Asianification” of the world has happened. There is every kind of Asian restaurant and every kind of Asian to go with the restaurant. Why should anyone care where I came from?

Or might it be the same thing that North Americans ask of each other at places where tourists frequent: i.e. “where ya all from? You just visiting us for a spell?” Workers in tourist places often have to ask these questions to make the tourist feel welcome and hopefully ready to buy some mementos of the visit.

Is that why she asked me where I was from?

Another theory is that here we are in upstate New York: two Asian people under the fluorescent lights of a take-out joint mainly frequented by RPI students and people who like General Tsao’s chicken and maybe we recognize that we are in a sense travelers on the same road, despite our cultural differences, educational differences, and other social distinctions.

Maybe we have more in common than anybody else in Troy?

The physical similarity that we Asians have isn’t just superficial. There is something cultural, too. We both come from far away, and we both come from cultures that are broadly similar.

We are obedient, practical, respectful, but we are also hybrids.

Hybridity is something I experimented with on this trip to New York. What is hybridity? Basically it means calling attention to the fact that I have at least two cultures in my background.

How does this link to Pauline?

Pauline is an outsider, too. She is a woman. She is a lesbian. She is eighty years old. She plays the accordion. She is a female composer. She is an experimental artist. She plays with artificially intelligent computers. Put it all together: she is a female, lesbian, accordion playing, electronic composer in her eighties.

How many more ways can one be an outsider?

But when she walks into restaurants, the owners don't ask her how long she has been in country or how it's been to be a female composer in a male-dominated industry. That's the thing about non-racial marginalization, it's quite different. I am a man. I can walk anywhere. I don't have to cross the sidewalk or be wary of who is behind me. I wear my authority in my gender. My ethnicity gives me little trouble anymore. But I also have some sense of the fact that as soon as I walk into this kind of a restaurant, I feel an odd comfort level.

This seems crazy to say, but this strip mall Chinese restaurant, recognizes me, respects my journey culturally, and makes me feel that I am strangely home.

Really?

I can walk into any Chinese, Vietnamese, Japanese, or Thai restaurant in the country and essentially feel at home. Who can do that? Can white people do that when they walk into a Kentucky Fried Chicken?

Or is this simply some kind of socialization process?

Tuesday Morning Improvisations

What are the conditions under which *Triple Point* employs improvisation? What do they sound like?

(Conditions? The body speaks. My feet are cold. I need socks. Pauline asks about the air conditioning. She is cold, too.)

In the music of *Triple Point* (without FILTER), I hear improvisation but it does not register as anything unusual to the players themselves. You cannot really tell that they are making everything up. It is nearly shocking to me: but very familiar and relaxed to them. Pauline plays her red Korg digital accordion. Her sonic vocabulary is becoming more available to me. I realize that this will sound rudimentary as I write these words: there are long notes, there are short notes, and they vary in pitch. These notes, if they are linked, extend to two perhaps three seconds. She employs sequences but not rhythmically. She does reproduce patterns but not in obvious ways. She does, however, employ what I will call “chapters”; there are at times clear sonic boundaries, she turns the page, so to speak, and she performs something different. I have heard three sometimes four chapters in a so-called “song” which tend to last from 7 to 16 minutes.

What is obvious to my ear is that Pauline’s sense of rhythm is not immediately identifiable or predictable. The length of her sustained notes ranges between two seconds and five seconds. There are scale-like runs in her work where her hand presses in fast sequence a number of notes, but usually the sequences are not harmonically organized into chords or what you might term tones. There are definitely no familiar-sounding chords or a chord-like language or sequence. There is no obvious rhythm or pacing, other than the pacing of a heterogeneous non rhythm.

There appears to be no melody.

I hear Pauline play this way, but obviously my ears are not her ears. Her order or disorder, her judgment of how she plays is simply not available to my listening at this point. Even her visual intensity is not readily available. Her facial appearance does not change, although there are small changes. It is possible after many hours to see her concentrate. It is challenging for me to watch her listen, because I must hear what the others are playing and hear her response.

What is challenging about *Triple Point* is the lack of equivalency in the musicians and their instruments. The saxophone with its sharpness is the easiest to follow because its sound profile represents that which should carry some sort of melody. In conversations afterwards with all members, Jonas admits the other band members have been annoyed with his temptation toward jazz melody. They don't like my riffs, he proclaims often, aware that the other members recognize not only the musicians who is tempted by other musical traditions, but the instrument which seems want to occupy its traditional place in a trio.

Doug is much more difficult to understand. He plays a laptop, says Pauline matter-of-factly. In fact, Pauline says nearly everything matter-of-factly. Her human voice and the voice of her instrument are similar in this respect. Let me explain this briefly as it relates to Doug's voice.

Pauline's matter-of-factness appears to be a characteristic of being in dialogue. In other words, matter-of-factness is a tonal response that is evoked to represent a calm, dispassionate, and clear response, one that is not devoid of emotion, but not sentimental or saccharine. Pauline's human as well as instrument's voice is responsive, human, and reasonable. It is not as if there are no spikes, sharpness, or exclamations—there are in the music, but they are not expressive—they are responsive, the product of listening. These responses resound as echoes, if they do sound excited or animated. This may be wholly a function of her personality and preference, I

cannot know, but why wouldn't it be? In fact, this is one of the conjectures that I make immediately after Monday when Doug and Jonas bicker and bark at each other during set up. Even on Tuesday morning when Pauline asks for a clearing, Doug and Jonas, don't go after each other's personalities, they simply continue to argue about technical matters such as where there is background noise, how it could have been prevented, and who is doing more heavy lifting, etc. Their list of mini-debates feels endless to me.

Now back to Doug's sound.

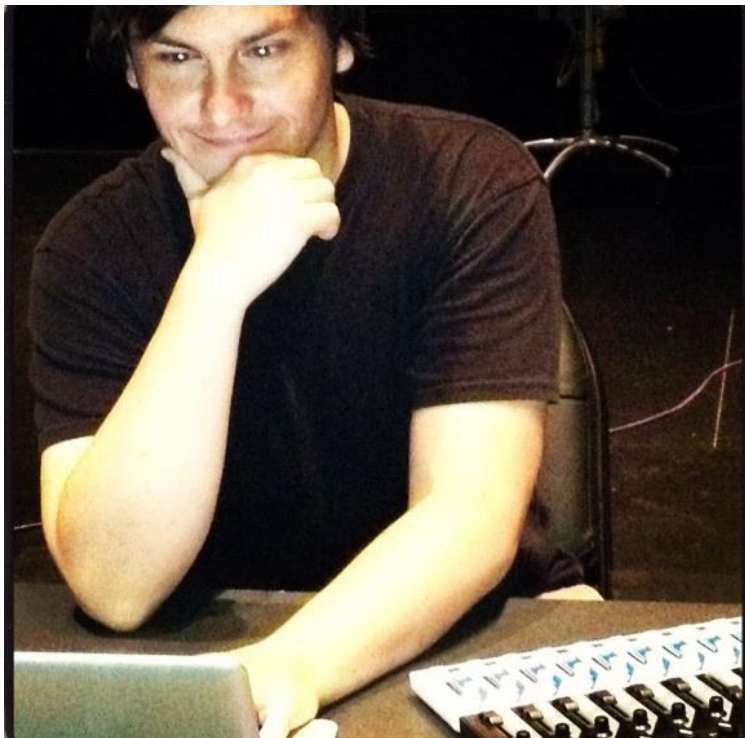


Figure 12 -- Doug van Nort

Doug is an enigma. He uses a pen on a pressure sensitive pad which connected to a MacBook Pro laptop. The software he uses is something he has developed over a decade. He modulates his own sound using the computer connected to a mixing board. The mixing board connects his

fellow musicians who have inputs into the software and outputs to speakers called monitoring speakers. Unlike Pauline and Jonas, Doug basically invented his instrument. He chooses from a wide variety of sounds, but he tends to focus on a particular palette which I would characterize as industrial.

In the mix, you might say, his instrument's voice originally appears in the background behind Pauline and Jonas, if anything more like a keyboard player might lay down long chords or orchestral string background. Doug does and can play live but he can also record and play back his sound and that of Pauline and Jonas. What he plays (using keyboard keys along with pen) can also be modulated in any number of conventional ways—oscillate, echo, chorus, key changed, tempo changed, as well as stretched—if I can call it that.

It takes me a long time to distinguish Doug's contribution. I want to ask him about the kinds of variations he prefers to make but I first want to try and figure out what he's doing. He appears to make many variations on the fly in a way that sounds embedded and not necessarily distinct from the voices of Pauline and Jonas. The pen he uses is not as simple as it looks either. The small pad is specifically programmed to represent quadrants of sounds and the pen responds to pressure. He can choose to use a previous sound vocabulary from a previous performance or he can choose to reference only the current performance. Doug's sound vocabulary when he plays at first appears as rumbling with the odd swipe here and there with his pen. These swipes sound like crackling, thunder, and tearing. He can jiggle the pen and create either huge distortions to the background sound as well as modulate the volume so that these distortions are reproduced as smaller waves behind the other members of *Triple Point*. The swipes and manipulations are heard by me as mainly reverberant machine-like industrial sounds but because he is also listening, Doug can play back Pauline separately and play back Jonas separately or play back both.

This is where it gets very complex.

And as a listener I often give up trying to isolate each performer. I let the sound wash over me. I let go of the analytical part of my listening and I listen to the totality without trying to locate this track or that effect or this voice or that voice or this repeated sound or that repeated distortion. Sooner or later, I stop the analysis. Partially because it is too difficult. Partially because I am hearing a narrative emerging that isn't just connected to the debates and personality differences. There is a strong sense of here and now, a sociocultural and political quality that does not seem obviously connected to the historical moment of this specific time and place but seems networked, instead, into the virtual and non-virtual space around us.

Of course, you can hear Doug playback Pauline and Jonas if you're listening for these layers, but then you might miss what else he might be adding in the foreground, plus the listener has to differentiate how Doug orders the sequences. He is definitely not linear in how he approaches his offerings. There are layers, yes, but it is better described as planes of sound. Sometimes the planes intersect; other times, they build into something else. Anticipating Doug is impossible: you don't know what you're going to get, but his volume modulations can be quite significant, easily matching the voices of the others. But he can also be very subtle employing scratching and industrial sounds to a nearly indistinguishable level as if there were traffic outside or if we were in a warehouse or industrial district and the walls were thin. Sometimes you think there is a truck rumbling in the basement or something.

It is clear to me after only a few hours that when and how he plays back Pauline or Jonas is subtle, complex, and unpredictable. Doug doesn't take on the visage of the traditional musician. He looks like a programmer at all times. The most interesting thing is not how sensitively Doug plays back and modulates his fellow musicians--that is a subtle, complex, and very empathic process as it is for the others--but how Doug plays back and modulates himself. Of everyone in

the band, it appears to me that Doug has the most power.

I use the word power suggesting a multiplicity of meanings. Doug has the most power literally because he can adjust everyone's microphone and outputs levels. While Jonas is recording the session on his laptop, the actual live sound is essentially mixed by Doug. While he does not play with their volumes, preferring instead to give everyone the ability to hear their sound through monitors, Doug has the power to replay each of his band mates and himself in nearly an infinite variety of ways. The result, especially for a musician sufficiently interested in being a soloist, normally would be catastrophic. But because Doug's ego appears in less obvious ways, the question that I keep asking myself is how Doug manages to do it. When I count up how many things he is doing while performing live, it appears he is playing four instruments and that does not include FILTER which hasn't been set up yet. Instrument one is himself. Instrument two and three are the sounds of Pauline and Jonas which he can modulate. Instrument four is the playback of himself.

Tuesday Big Dinner, No Nutshell

In a study reported in the February 26 issue of Nature (Vol. 391, pp. 871-874), researchers at the Weizmann Institute of Science now conducted a highly controlled experiment demonstrating how a beam of electrons is affected by the act of being observed. The experiment revealed that the greater the amount of "watching," the greater the observer's influence on what actually takes place.

Here we go. It's Tuesday night. Another steamy night in Troy. I have invited everyone for dinner at the Green Shell. I am nervous.

It is dinner, our first. I am to meet them at 7pm. Jonas arrives at the Green Leaf at 7:10. Pauline and Doug and Doug's wife pull up ten minutes later. I put two tables together. Obviously, they are not used to people eating there. It's a Chinese take-out place. They don't mind because the owner and I bonded a few days before. She says hello to me like we are both born in the same village in China which suggests that she does it very matter-of-factly.

(The unspoken Asian mode of global communication: The more we like each other, the more rude-sounding we'll be. Half-joking here.)

The paper plates are thin white paper. The utensils are high quality plastic. I flip them on the table like playing cards. Double up, folks. They're kind of thin. The drinks arrive in cans. I'm going for ice tea. Pauline hums and haws and gets root beer. (Scholars take note.)

Informality-- that's the way it is here, I say. We don't mind, Pauline says. She's hungry.

Ordering is tough; I'm afraid that Doug will get out of hand: he is only mildly demanding. He

wants to make sure his wife Stacey is well-taken care of with vegetarian selections.

We order all the usual. Chow mein. Beef, Shrimp. Rice. Lemon Chicken. I throw it all in. This place is inexpensive and I have my trusty Visa. Stacey finds some vegetable options. She doesn't want to trouble. We order a lot. Pauline wants egg rolls. I order egg rolls. Whatever she wants.

We get down.

It is Tuesday night. The band has played for two days. It's been fun. We talk Obama. We talk bin Laden. We talk music. We talk poetry. While we are eating, the question is finally asked...

...Stan, what exactly are you doing here?

Internal dialogue: Oh, shit. Shit, shit, shit, shit, shit.

For once I am stuck. And it takes some diversion, some slow chewing a big swallow and some reflection to say what actually comes out.

I want to be frank here. I have momentarily forgotten what I'm actually doing. I am having so much fun that I have forgotten my role. Bad researcher! Bad!

I decide to take the plunge. The decision takes a spit second, and I want to talk honestly, and I don't quite know quite what is coming out of my mouth. Usually I do not do this. Confession: at heart, maybe I am a planner not an improviser.

But because Pauline is around, acting all matter-of-factly, while sipping root beer, I decide to just say something, anything.

Just say something, you idiot.

...I'm like an ethnographer and I'm studying you guys. I'm not just studying the music but I'm also studying you, as an ethnography might, you know? You know like how you guys never talk to one another, how you two (pointing to Doug and Jonas) like to argue, how you interact with Pauline, and you know, I'm even studying myself. I am observing myself observing you as well. But most of all, I am interested in improvisation, particularly this thing that Pauline calls quantum improvisation which is the co-evolving process with a sentient machine.

I say this all without swallowing. And I say it in a way that the reader should imagine as a kind of zealous and intense blurting out. After all the stuff I've read about anthropology. After all the stuff I've read about performance and performance ethnography--I'm not sure that Norman Denzin would be all that proud of me right now.

But it came out. I've never spoken the words, "I'm an ethnographer" out aloud before.

And I do not say, and I don't even want to say it now, that I have not done ethnography in this way before, even though I've done hundreds of interviews. This is different, but not so much either. If you go looking for examples of ethnography, you won't find exemplars as you might in other forms of writing.

They are exemplars of themselves.

I did not take a class in how to write ethnography, but I did give a national workshop on how to do it, even though I had never done it! I don't even know what to say about that other than to say that I am very big enthusiast about the form. Now I am not being entirely accurate because much of my previous work has elements of ethnography. My journalism, creative non-fiction, memoir, and fiction work are critical elements in an ethnographer's tool kit.

I look up. Now, here I am, in this restaurant, explaining to the people what I'm doing after to two days of silent testimony in the corner of a black box.

One thing is for sure: I've never done this before. I've never called myself an ethnographer because I used to call myself a writer. Maybe they are kind of similar? But I know this is okay, because it is honest. And the group suddenly becomes even more engaged now. We are talking wildly about the role of systems theory, chaos, chance, and quantum physics.

I feel drunk but I'm only drinking canned ice tea.

I ask Doug about biological algorithms and he says that he used them in modeling his invention FILTER 2.0.

Jonas talks about how machine augmentation is related to artificial intelligence.

And Pauline, who is a talker, but not a big talker, after all she is the inventor of Deep Listening, eats her large spring roll, smiles, and talks about how FILTER is a machine that improvises based on what it is listening to in real-time. Real-time. Big time.

There is in these dinner conversations between people sometimes the crazy notion that we are building some kind of dialectical bridge to the unknown. This is clearly not a debate. It is not a series of isolated speeches.

There is a sense of unison climbing as a group.

We are in this tiny Chinese take-out in Troy, New York on a hot humid night in August. And we are going someplace together.

I realize as we are chewing that I didn't know if I was going to spill the beans and tell them what I was doing. I asked them, so what did Pauline tell you that I was doing?

Not much, they say. And Pauline and I look at each other and laugh.

Now that you know, I say, how do you feel about it? Now, the room quiets.

These people are serious academics, and they want to finish chewing and want to give me the self-declared "outed" ethnographer a damn good answer.

Doug says, you're giving us a sense that you have a larger sense of what we're actually doing, I mean you are closer to understanding the significance of what we're doing—than we are ourselves.

We are just playing, man, says Jonas slowly, with his German accent on heavy.

Me, too, man, says Pauline.

I'm barely playing at that, says Doug.

We all have another hearty laugh.

I say, do you know what you guys do after you finish a song, which by the way, happens in this weird magical way? I don't know how you do it but sooner or later a song ends, and then when it ends do you guys know what you do?

They look at each other.

You seriously don't know what you do?

I look at them. You all laugh!

Then I imitate them. Each of them laughs in their own quiet little personal "hehehe." That's it. There are no words. They simply laugh.

I ask, so what does that mean?

I don't know, says Pauline.

That's just way it is, says Jonas.

Yeah, says Doug.

So do you think I'm making up some crap with this quantum improvisation concept? You know the idea that this machine-human interface improv that you're demonstrating represents a potentially potent area for emergent discoveries in consciousness?

I talk about the observer effect and the things being in two places at one time.

Yeah, Jonas says with a mouthful of chow mein. The observer effect. For me, there is a consciousness that physicists are trying to find a way to mathematically express.

While Jonas elaborates on the uncertainty principle/observer effect, Doug says that *Triple Point's* brand of improvisation corresponds nicely with the physicists who say that two electrons can exist in different places at the same time. The improvisation mind is always apprehending the point and the space around the point, Doug says.

Pauline nods and then mentions an experiment she did in Princeton where they tried to create a physical manifestation of consciousness. I talk about the attempt to influence random generators with the conscious mind.

They are not quite buying that one, although Pauline nods her head.

I wonder aloud if music isn't the best representation of life that there is. I feel a bit drunk on our conversation and the canned ice tea is doing wonders.

Jonas asks Pauline if she agrees with this idea.

Doug says very quietly and authoritatively that...

"...in a nutshell, music is life."

Pauline says matter-of-factly...

"...hey, no nutshell."

We look at each other. Wait for a beat. Then we laugh...

... BAHAAHAHA. Then quietly. *Hehehe*.

Pauline finishes up the evening talking about the FBI and Tesla. She is 100 dissertations worth of material. Our minds are boggled. I go home and lay down on the hotel bed wondering if I can possibly absorb all of this.

My last thought is: you just can't make this stuff up.

Wednesday

Another fifteen minute walk to EMPEC. Walk beside the heavy river of traffic at Hoosick. Wait at the lights at 15th. Hit Peoples. Cut across to Sage. A little cloudier today. 80 degrees.

I am surer of my walk; I can confidently cut down Peoples through the parking lot behind one of the engineering buildings. The tilt of the land tells me I am going in the right direction. East. The sun is high over my head and shoulders. A hat would be smart, I think. I would probably misplace it. Last night, I gave in and ate at the sports bar at the Hilton. The fries were calling me. They eat them everywhere. I suppose they are a successful product of globalization or is it colonization?

We should ask the Mahicans who once lived here and now live in another state.

I look at the red flowers growing in the side gardens and front entrances. What are they again? I don't know my flowers. The full heat of summer. Over there around the fire hydrant; those are daisies. The old buildings watch me pass, and they are growing on me. I imagine the great American writer, Herman Melville, strolling here considering stories like "Bartleby the Scrivener," the desire perhaps building within him to resist the industrial and commercial patterns of life.

And, of course, there is the spirit of another writer, a more modern one, but as resistant to the progress of humanity as Melville was, Kurt Vonnegut—who also once lived near here. There is an industrial buzz to the din of this place. The roar of Hoosick Street. The hum of the town. Vonnegut wrote *Slaughterhouse Five*, one of the most absurd, genre-breaking, and modern novels I have ever read.

Is this what this land produces?

The grass fights between cracks in the concrete as I cross Peoples Street. That street name is growing on me, too. The engineering parking lot is mostly empty. The sun bakes the cars. I notice a RAV4, like the one we have at home. The campus has many engineering buildings. Some look new; others look like old hospitals with weird shapes on their rooftops, antennas, satellite dishes and ventilation units. You can hear the roar of these units. They are everywhere. And they are invisible unless you decide to use your ears and track the sound. This is how they live here. Scientists not only need air conditioning, but the fumes must be vented. RPI is one of the world's top engineering schools.

I check the website. Today, 3,000 undergraduate students and 700 graduate students are enrolled in the School of Engineering at Rensselaer, and 70 percent of incoming first-year engineering students were in the top 10 percent of their high school graduating class. The School of Engineering's seven academic departments offer 30 different degree programs. Research conducted at Rensselaer addresses some of the world's most pressing technological challenges—from energy security and sustainable development to biotechnology and human health—and the School of Engineering's 165 faculty members are at the leading edge of their fields. The engineering faculty's annual research expenditures total more than \$50 million.

I imagine that I look appropriately air-conditioned. I carry a few almonds in a plastic bag in my pocket. I am wearing dark blue shorts. I wear a long sleeved shirt. There is a nylon wallet and an iPhone 4s in my pocket. It has taken awhile but I'm more comfortable now—with the weather, with the environment, with my listening.

I guess you can adjust to anything.

I think of a woman I met in 2008. Sheila Watts-Cloutier taught me that the Inuit in Siberia, Alaska, Greenland, and Canada are trying to adjust to global warming. But they depend so much upon the cold. They love the cold. The cold is their identity. The sea ice allows them to hunt. The sea ice is disappearing. Global warming is something that people are now being asked to adapt to. It seems too late to stop it from happening. The Mahicans, the river people, have been forced to adapt many times; each time they were forced to move they had to find some kinship with the land again. Now, they are past adaptation; they are seeking compensation. What step comes after compensation? Are the river people still the river people? Are the Inuit still the Inuit where there is no more cold? This is what Sheila Watts-Cloutier said at a United Nations event in 2005:

Inuit are an ancient people. Our way of life is dependent on the natural environment and animals. Climate change is destroying our environment and eroding our culture. But we refuse to disappear. We will not become a footnote to globalization.

(April 2013. Retrieved from

<http://www.inuitcircumpolar.com/index.php?ID=316&Lang=En>)

Sheila made history by petitioning the United Nations and linking global warming with human rights. And what am I doing? I'm listening to air conditioning units. Cooling and heating buildings are a bigger source of CO2 emissions than transportation. According to the EPA, it was 40 percent in 2009. Transportation is 31 percent. (Retrieved from <http://www.epa.gov/climatechange/ghgemissions/gases/co2.html>)

What am I doing? I'm trying to form a kinship with this parking lot asphalt and the manicured lawns of this university that sits above the Hudson valley. Who knows what my carbon footprint

has been to fly here?

What am I doing? I'm going into an air-conditioned black box to listen to experimental sound being recorded.

I am here but sometimes I wonder how I got here.

At times, I don't know how people live here. I know it's New York state but it doesn't feel central to me. It feels like borderland.

I consider Dwight Conquergood's famous view that "borders bleed," reminding us that people have physically suffered for the lines on our maps, for the demarcations in our culture. Everything about here feels foreign to me, this Korean born, western Canadian raised hybrid.

Last night I popped into a grocery store on Hoosick. The only thing about the store that is similar to the grocery stores I am used to is the people. We just want food. But instead we get various shaped little boxes with words printed on the outside. The branding imagery on the boxes looks quite different to me (this is a discount place) but the people are all the same. Where is the food? The shelves, like the shelves in Canada, are lined with prepared food, junk foods, snacks, sodas, and other stuff you can eat right out of the box or zap in a microwave. I buy three frozen burritos for \$2.99.

Is this what the Mahicans are doing in Wisconsin, too? Are we all eating the same stuff, living in all the ways we know we shouldn't? Perhaps if First Contact had gone a little differently. Perhaps if a few more Europeans were defeated? I don't think so. Western imperialism and colonialism are everywhere that I have ever been. There is no place without the footprints of

this civilization. Everywhere I have ever gone you can get a bag of chips and something that takes like cola.

It is past nine am. I know now to come in a little bit later. Sunday was summer party in Kingston. Monday was set up day. Tuesday they recorded without FILTER. Wednesday, FILTER--who requires a set up including FILTER's own set of speakers--arrives.



Figure 13 -- EMPAC West Entrance



Figure 14 -- View of Troy from EMPAC

Wednesday - Hello FILTER

I am going to make your acquaintance, FILTER.

There is more equipment in the studio now. Pauline's has a much bigger set of monitors behind her. I take my spot behind the video camera. I take my iPhone and plug it into the wall. I open my notebook and pause.

It is another day in this windowless black box. My stomach is already growling, and I am used to how these musicians talk about everything but their music. They are like writers, a group that I know quite well. When writers get in the same room, writing is never discussed. Software is discussed. Printers are discussed.

Writing is unspoken.

As usual, Pauline does not practice; she sits in her usual seat and warms up her fingers. She makes sure she can reach her foot pedals. She is happy as she always is, a model of Zen repose. Doug makes sure that everyone can hear themselves through their own monitor set up. Each musician, including FILTER, has a set up. Jonas never warms up. He is never near his chair until five seconds before they play. He is making sure that the session is being recorded properly. He is running around like a mosquito. Everything must be checked. He wants the recording to go well.

The test recording doesn't go so well. So he's back at it. Doug and Jonas bicker again. I look at Pauline. She shrugs her shoulders. I walk behind Doug and look at the screen of his laptop. Is that FILTER? Yes, he says. That's the interface. FILTER is inside there.

Monday was set up day. There was buzzing in the ceiling and we had to get it fixed. Tuesday morning, Jonas and Doug found unknown buzzing noise in the mix. Jonas scurried around testing all the wires. This takes 45 minutes until it is realized that a wire has been kicked loose near Pauline's foot pedals. That is what is creating the buzzing.

Doug says we might as well get it right. Jonas says that usually bands hire a producer for this. Pauline says next time we have to ask for more support in our funding application.

I realize now that this session with FILTER is being funded by the national research council. This is research. It is art-based research; there are expectations. Very few people come into the room on Wednesday, but there are two things going on.

Thursday morning the Dean is invited to hear them play. Thursday afternoon while Jonas has to attend a meeting, a group of PhD students want to play with Pauline. I'm not sure what is happening to me, but I'm wondering about both events.

This recording session with FILTER has stakes around it. Not only am I the researcher who is undertaking to look at them, but they also know they are spending a grant; they are trying to figure out something concerning the intelligent agents and augmented improvisation with FILTER. These people are academics after all. Doug is on a post-doc. It is his second one, and there are only so many post-docs you can do after your PhD before you're expected to gain a tenure track job somewhere. This is a pressing issue. Doug's wife is a contract teacher at a local women's college: she is not tenured either. She has just finished submitting her dissertation which is in English.

Jonas is in a more advantageous situation. He's just received notice of tenure. He'll move from assistant professor to associate professor. This move is generally the most significant progression in the academic's career path. Some people don't make the progression. It's not an easy one. In order to cross over to the land of tenure, you have to produce research. You have to do three things: research, teach, and serve. The service part, Jonas has covered: he's a musician and he serves on Pauline's board at the Deep Listening Institute. The research part is also covered: Jonas publishes highly technical writings on sound and acoustics. The German-born, sax playing, acoustician has a young wife and two children at home. He has responded capably to the pressure of being at RPI, which is, as the website says, in the top one hundred engineering schools in the world.

Pauline is in a different boat altogether: she has a permanent position at RPI but it's at the level of instructor not professor. She has three honorary degrees, but she finds it necessary to conduct activities through the Deep Listening Institute, not only to protect and spread her ideas, but to generate a revenue flow through certifications and workshops that she's been doing for 20 years. She may be 80 years old but her slate of international activities, workshops, performances, talks, and humanitarian activities is nearly overwhelming.

Physically, she is an old woman. Intellectually, she is sharp and thoughtful. Emotionally, she possesses the qualities of a sage, someone who embodies knowledge and wisdom.

So here we are getting ready to get down with FILTER. I lean forward as we wait for Doug to set these levels.

These are resourceful people.

FILTER leads. When I first thought about this, I wondered if it could be true. Could a piece of software lead three live musicians?

What Does FILTER Do?

It plays a mantra but that is far from obvious. In fact all the musicians play a mantra but repetition is difficult.

Doug plays the mantra of ambient sound.

Jonas plays the mantra of the long note.

Pauline plays the mantra of what? I am guessing now but I know that mantras mimic the act of sexual reproduction and the cosmic cycle of creation and destruction. A mantra that imitates creation is believed to be more creative and effective in producing a real-world result. Drawing from linguistics, semiotics, anthropology, and philosophy, as well as the history of religions, mantras and other ritual discourses use rhetorical devices, including imitation, to construct the persuasive illusion of a "natural language," one with a direct and immediate connection to reality. So what mantra is FILTER playing?

FILTER plays the mantra of "demusicalization."

I recognize another surprising thing:

FILTER is leading the human musicians. Easily.

Thursday Performance - The Arrival of the Administrator

Thursday is a big day. FILTER plays in the morning with *Triple Point* with an audience. The new Dean and a few guests show up. I help set up the chairs. I don't huddle in the corner pretending to be invisible anymore: I am like the band's roadie now.



Figure 15 -- Triple Point Relaxing

There are significant stakes here. The arrival of the administrator coincides with a discovery: this band is not improvising what we call “music”; on the contrary, the quality of their music depends, not only their relationship with FILTER, but their relationship with themselves. That’s

what dinner taught me.

The overall stress is visible and audible in the morning. The pressure is on. The new Dean is coming.

As an outsider, you think you understand an insider's language, but you really don't. You never really understand until you earn some kind of membership into that community. Electronic musicians during the San Francisco era possess an ethos, a culture, and particular way of using language. The more I read the writings and hear the interviews, I begin to understand how some of Pauline's words are very specific, not just to an era, but in a technical sense.

And in her use of language, you notice how gentle she is. She is hardly critical of anyone, but she doesn't over compliment or say positive things in a bland and mindless manner. Pauline is very careful in her language. She does not let it control her. And she's also very funny.

Pauline has been interviewed many times. She has taught a great deal. She's heard a great many questions. I realize how naïve my questions have been, but in a sense, I have to accept my naiveté. I am learning. The more I learn about Pauline Oliveros by simply studying the sense of her words, the more I consider her a philosopher and thinker.

The more I study her, the more she becomes a kind an emblem of someone who performs life in a manner that is distinctly postmodern. Not postmodern in the sense that Pauline is attempting to radically destabilize things as we know them; but in a way yes, Pauline's work and life are essentially positioned as radically outside, presenting an aesthetic that is political in

the way that it gently rejects most of western, rational, dual thinking.

Her work embraces an eastern knowledge. It is performative, not text based. It skirts the edges even of an avant-garde electronic genre she belongs to.

Until recently, improvisation was one of the movements that have been neatly ignored by the academy and western history. Improvisation is embodied, instinctual, non-text based, and performative. Western ways of knowing find improvisation a great deal of trouble. Music, improvisation, and Oliveros have been caught up in the mind-body duality of western thought. She uses her words carefully in order to capture language that can contain meanings that often break down into either/or categorical thinking. For Oliveros, most language fails to capture the essence of what she is trying to do: that is why she is a composer.

In a sense, Oliveros is an explorer. She is interested in exploring the new. She is less interested in personal expression than one might think. She is more interested in her art than in the political, even though she is an acknowledged feminist and a lesbian. She is, however, possibly most interested in exploring consciousness, healing, and morphogenesis—that is, Pauline is on the hunt for the new.

What kind of new?

The experimental music from the American tradition that Oliveros belongs to is most interested in how technology and improvisation can work together toward that which cannot be seen. It is right there in front of us, a mysterious world, only available through listening.

Yes, we can hear, but do we listen?

In *Triple Point* with FILTER 2.0, I hear a history and a practice and many generations of artists and audiences striving to be surprised, seeking to be taught by what we can perceive through listening. The use of technology, the use of algorithms, the use of delay mechanisms whether natural or technology-based, these things all tell us that listening has the enormous potential to teach us and help us experience a new soundscape.

There is a point when I am working with them where the improvisation shifts from the music, to the group and how they work together. This is surprising to feel right now. There is a point where I am listening to the music of their relationship. There is a point where I find myself working WITH them, and not for myself.

What am I doing?

There is no script. There is no plan. Throughout my time, I return to the hotel and I think about reciprocity--the indigenized autoethnography demands that I return their gifts in some way.

During the day, I slowly withhold less about what I am hearing. I hear their self-consciousness. I hear them conversing as band mates and then I wonder if they are doing the same thing when they are playing.

Really?

I hear their vocabularies as musicians. I think I hear their improvisations, but I also hear the social context of their concerns.

Pauline wants everyone to get along, and she wants Doug and Jonas not to fight. The German man has a strong personality, but as I get to know him better I realize that some of this is sociocultural, some of it is personality, and some of it is Doug.

Then things start to change again.

I am beginning to want things for them. Now that I see what they are, I want more for them. I want them to be recognized for what they are doing. I want RPI to acknowledge them. I want the world to acknowledge Deep Listening.

I start coming back to an old identity of mine: the administrator. Here is another discovery: on Thursday, I am becoming aware of how I am beginning to use my identity as an administrator. I want their success; I want to impact it. Is this how ethnographers feel about their subjects? Is this the classic line where you begin to track your impulses to impact the narrative?

I want Pauline to stop being ripped off by her imitators. I want her in history. I want her raised up to where she belongs. Oh, dear, how I want to inspire them.

In the end, my stature has risen in that I believe they think I have their best intentions at heart. I want what they want. It's not some kind of superstardom that I want for them, but I want recognition for them. What they are doing is interesting.

Pauline is a superstar. Doug's software and musicianship are incredible. It is Jonas that is being tested, but he is well aware of this, too his credit. He knows his sax playing is interesting but often too melodic. He can't help put in the jazz riffs. There are no jazz riffs in the other two.

They don't need to fall back on previous melodies, or at least with their instruments, the vocabulary isn't as obvious as it is with the saxophone. (Where Jonas is a star is in the band's organizational work as well as the all-too-important craft of winning grants.)

What started out to be me studying a unique kind of improvisation is turning out to be an instance of "social improvising" where we are not just playing live, but *we* are becoming *live*. We, including me, are seizing moments to have conversations about what is being heard and what is being done. And they are talking to me individually now about each other, about their own ambitions, about how each person can fit in.

I have become a confidant.

There is so much ambition here. It is a collective one, and it is an individual one. Doug is without a job next year. He is a post-doctoral fellow. Jonas is now an associate professor; his work is partially done; but he is a rising academic with many irons in the fire. Pauline, she is the dynamo, her calendar moves forward with event after event. There is no sense of slowing down or quit in her.

And so there is a kind of spontaneity and risk going on in how the relationship evolves between these three before their performance. In a way, I am finding myself like a marriage counselor, a role that I've taken on before as a dean, where I'm trying to get the group to see new ways of being with each other.

I don't know if this is right. I don't know at this moment what this means to my research other than pursuing performance autoethnography has shown how improvisation is a fact of social relationships. These people don't know this; they are musicians and faculty members; I don't

know how they see me.

I want to promise to do them no harm. I am not hard on either Doug or Jonas. They are younger than me. My status as a dean begins more and more to occupy our moments. I am the older man. I am an academic. I am a person who knows and understands how power works in the academy.

Is this how I can express some reciprocity? By assuming my dean role?

It is Pauline's case that is the most interesting. Her relationship with RPI is very interesting. She is in the ninth decade. Her popularity and status is meaningful at RPI. This is her 80th year and the president of RPI, Shirley Jackson, spoke at her birthday celebration in ways that moved and surprised Pauline. She is at RPI, like all faculty, always understanding that they sit on an academic hierarchy. Deans, vice presidents, and presidents rule the day here. Faculty members, while celebrated and appreciated, are workers. They struggle with the politics of workload and relationship; finding courses to teach, especially when, like Doug, you teach fairly esoteric things such as experimental music does not make it any easier.

But they are also very grateful. RPI is a place where *Triple Point* can play. They have national funding for their work. Doctoral students want to know what they are doing. But, of course, they are still in the Arts and this is a world renowned engineering school. The engineers, I'm told, were not too happy with what Jackson did with the unprecedented gift of money she received from an unnamed donor: instead of an engineering building, she builds EMPEC for experimental media.

Who would do that?

Pauline knows that she is in ninth decade. It makes me anxious. I watch how she drives and I catch myself wondering. I am ashamed at my ageism. This culture makes such a big deal out of age. I watch her and I want her to have many good things happen to her. From a researcher's point of view, it appears that I have lost all objectivity—of course that is the point of performance ethnography—exploring subjectivity, presence, embodiment, and how humans improvise not just music but meaning itself.

They are making meaning.

They are making sense. Out of their lives. Out of these long single notes. Out of the universe. Out of the world of work, finance, security, taxes, and mortgage payments.

This is how they chose to live. Working in this studio recording their improvisations and co-evolving their relationships with each other and with their sense of themselves as an evolving entity.

I am so privileged, I think. To be a part of how they are forging connections in their work and lives. In fact, there is no difference between work and life. They are working live in the studio; just as every family and organization in the world is sitting in a meeting room right now working “live.”

Spontaneity is what helps us find shared meaning in the moment.

A Deeper Awareness of Reciprocity

In both critical theory and constructivism, knowledge in itself is not seen as the ultimate goal, rather the goal is the change that this knowledge may help to bring about. Both paradigms share the axiology that research is not seen as worthy or ethical if it does not help to improve the reality of the research participants. (Wilson, 2008, p. 37)

Indigenous scholars like Shawn Wilson consider reciprocity as a part of a ceremonial view of research. Ceremony creates an ethos of reciprocity where there is a sense that the reality of all participants in the research process is positively impacted. This concept poses a constellation of challenges to the researcher who wishes to embrace an ethos of reciprocity. Firstly, there is the challenge of relationships that are authentic. What comprises an authentic relationship? Then there are the ethical issues that result when the researcher attempts to offer “pay back.” The concept of ceremony can guide the researcher because the performative nature of ceremony encourages a meditative and deliberate respect and consciousness that surrounds all the participants in the research process.

The word ceremony reminds the researcher that reciprocity is not akin to pay back but more like pay forward. Here the researcher attempts to reflect upon ways to improve the reality of the research participants. The ethics involved in the process of reflection call for a ceremonial consciousness where the researcher begins to learn what might be of reciprocal value.

Reciprocal Value Questions

1. Is there a benefit to the research participants when the researcher contextualizes and places their work within a larger framework?
2. Does this contextualization of reciprocity change performance in a way that needs to be

deliberated and well understood by all parties?

3. Will participants require individualization of reciprocity in ways that will create conflict or inequality of reciprocity?

4. Full partnership is a part of reciprocity. How did the researcher change when offering full partnership? Was this partnership accepted? What the process involved?

When attempting to delve into these questions, I found myself wondering about one fundamental question.

Is relationship true reciprocity?

What could I do to enhance my relationship with my research participants? At the beginning of my journey this question takes up a great deal of journal writing space. These reflections can be summarized in the following question: what do I have to offer?

What do I have to offer?

This is a question that dominates the past, present, and future of this work because it binds, once again, the triumvirate of respect, reciprocity, and relationship.

I offered many versions of response to this question: firstly, I offered as much as possible a “genuineness” of relationship which meant inquiring after what indigenous people consider a relational approach to getting to know another person. The work is often divided into three categories of question: family, culture, and community.

The first thing I tried to do was continually introduce myself in a way that is not typical of non-indigenous researchers. I used my Korean name often and told people that my name was Stan Sae-Hoon Chung that I was born in Korea and that I was a Korean Canadian. The impact? I did this at Pauline's party and it resulted in conversations that diverged away from my research purpose and more towards a sharing of identity. Sharing my Korean heritage allowed others to try to engage their family and culture with me by sharing their own knowledge of Korean culture as well sharing their own cultural heritage. The community piece was introduced last, and I often changed how I talked about what community belonged to. I would introduce myself as belonging to academic research or a writing culture or a work culture as a dean.

The notion of not introducing me as the embodiment of my business card changed the character of my interactions. It allowed for a speedier entry into storytelling and trust, I believe. It also impacted my relationship with Pauline, Doug, and Jonas. Perhaps the most surprising example of reciprocity occurred prior to the visit from the Dean.

The conversations I had with Pauline on the visit often revolved around the relationship between Doug and Jonas, but as previously noted they quickly became conversations where I inquired in this way:

“What is a way that I might serve you?”

The answer to this question centred on a shift in role from researcher to a friend and confidant, someone eager to listen to the issues and ask questions. This notion of my usefulness to Pauline was something that I had begun before my arrival, as I asked Pauline if there was something I could do in terms of helping with the Institute. She was happy to hear my request, but by Wednesday evening, the conversation had shifted into new territory: the business viability of

the Institute of Deep Listening and how to ensure its sustainability after Oliveros's death. We did not say the word death, as we were mainly focused on the immediate future: it was more my unspoken concern that her work and efforts be institutionalized.

The tenor of the conversation changed between Pauline and I from questions about Deep Listening and improvisation to practical questions like what is the goal concerning the dean's visit? Pauline was not used to such a frank question, and the question engaged her interest. I began to hear the story of Pauline's academic struggles and ambition, and I began to hear her intense interest in advocating for the future sustainability of the institute.

I don't know if this helped her, but Pauline mentioned that these conversations were valuable to her. What transpired for me, however, was recognition that I did have something to offer beyond the dreams of a dissertation that will make a difference in the lives of this subject, a dream that I am sure all doctoral researcher possess during the process. On the contrary, Doug pointed out that I wasn't exactly a young researcher, and this became my opportunity to analyze and reflect upon my own conduct and how I was received.

The funny thing about identity is that no matter how you try, there are certain levels of your personality and life experience that emerge. No matter how hard I tried to adopt the graduate student personae the truth is that few people rarely believed I was playing that role in the way that they might have experienced it as played by others. I'm not saying I was not a good researcher, but more like I was a part-time researcher.

I would like to be able to say that my strengths as a generally curious, vital person emerged, but that is not exactly the best representation of who emerged during this time. The personae that emerged was the one that I was doing my best to not to show: the business card personae.

I like to think, like many others do, that I am a lot more than what is on my business card. At the time, my card said Dean of Arts and Science. I did not realize that not only did I walk around with this persona in a nearly unconscious fashion, much to the chagrin of my ego, but I also did not realize that to Pauline this character of Stan, the Dean, was a useful manifestation because I could help sort out a number of issues. The issues included how an institute moves from non-profit status external to a university to becoming associated with the university.

The steps to this sort of ambition are notably unclear especially from the perspective of a faculty member. They are also unclear to inexperienced university administrators who often also need help in seeing the steps along the path. The journey itself, it must be said, is not only not straightforward, but dependent on many factors outside one's control. There are also strategies that the institute, I thought, should consider, if it should adopt this ambition. These were not recorded conversations that were part of the official researcher. Instead, they formed part of the reciprocity. I wanted to be useful.

So these conversations occurred in the interstitial spaces of the official researcher. Pauline and I discussed in nearly hush terms the operation of the institute, the governance structure, its mandate, and how it needed to evolve a clear strategic goal. We discussed the tactics required in terms of how to engage the university in transforming its view of the institute and, in a sense, its view of Oliveros. My advice was clear to Pauline: there needed to be a plan and the right people needed to execute the plan. This is the kind of talk, people like me, administrators, engage in on a daily basis. Postsecondary institutions are always figuring how to strategize, engage, and transform in ways that are, in truth, absolutely necessary to overcome the bureaucratic stasis of these institutions.

These considerations of my own identity and how was perceived by Pauline helped me as I tried to find a way to be helpful to her. The notion of respect, reciprocity, and relationship that

Shawn Wilson discusses is included in the larger metaphor of research as ceremony. The relational aspect of research helped me recognize that my listening to Pauline as a Dean “friend,” was in a sense ceremonial. Beyond her ambitions as an artist and humanitarian, and all the other roles she plays, she, too, is also an administrator of sorts. She needs her institute to survive and be more sustainable. I think our friendship and respect and trust deepened as a result of these conversations.

Pauline believes in Deep Listening, but I came to realize that it is the individual people around the movement that she sees when she thinks about how the institute will thrive and survive. She frets about Doug’s survival as a post doc without a long term position. She thinks of all those other academics, teachers, musicians, artists, and practitioners who not only believe in Deep Listening, but who also want to make a living from the movement. The heart of my skill as an administrator is this relational perspective about how things get done in complex and ambiguous systems where tasks require creative entrepreneurs.

I never realized that in this thinking, I was focusing on a third area of improvisational emergence beyond the creative improvisation of the band and their socially improvised relationship. The third area of emergence was figuring out the sustainability of Oliveros’s legacy in a business as well as in knowledge terms. These three areas are starkly distinct, but also very similar in that old ideas be disrupted by new ones, but perhaps more importantly, relationality reigns supreme: that is why, Pauline and I determined that Thursday was a very important day. She decided after talking with me that she needed to develop stronger relationships with the new dean. She also recognized she needed stronger relationships with senior researchers who might be able to help her realize her goals. I was very pleased to help Pauline in this way, but I was also surprised to discover what aspects of my identity that they found valuable.

It was as if she was helping me realize something about myself.

So what happened on Thursday?

Thursday - The Dean

FADE IN

SHOT OF snow covered landscape. Clouds moving.

STAN

And now is the time.

CUT TO EMPEC EXTERIOR IN TROY NEW YORK

CUT TO BLACK BOX STUDIO

CUT TO STAN SITTING IN THE CORNER, TRIPLE POINT IN THE DISTANCE

STAN

Now is the time to reveal what happened in that studio on Wednesday afternoon when FILTER revealed itself and the band played with this near-sentient agent of improvisation, an agent that could listen, select, and play back in real time what it heard in the way that it desired. (In the way that it desired, I say to myself again.)

BACK TO TEXT

STAN

What might have I to say about those moments? To you. To myself. To the universe.

STAN

What does FILTER sound like?

STAN

When scientists talk about nonlinear dynamic systems theory or chaos theory or emergence, they often show pictures of birds swarming.

CUT TO BIRDS SWARMING

STAN

Have you seen those pictures where the birds are moving in unison, where they split and move as if one? They look fluid, like liquid oneness, and yet their organization in the sky seems so beautiful, so pre-thought, but this is happening right before your eyes. This is called "emergence."

CUT TO MILES DAVIS EYES CLOSED

Miles Davis face in black birds.

STAN

It is another kind of order. Not the kind that comes from one mind. And not the kind that comes from many minds. This is spontaneous emergence.

STAN (slowly)

This is...what I came here to understand.

CUT TO IMAGE OF PRINTER PRINTING

ANGLE ON TEXT

STAN

Scientists, mathematicians, painters, and poets have studied this. We have figured out the patterns. We have made connections from biology to chemistry, from the micro to the macro. We have built simulated systems.

STAN

We have seen that this natural beauty that seems so impossibly complex is the result of non-linear, spontaneous order.

MONTAGE OF IMAGES FISH, CLOUDS, CROWDS, SHELLS, PETRI DISH

STAN

We have seen this in fish, too. In clouds and in weather and in traffic. In crowds and in the shapes of shells. We have seen this in the petri dish. We have seen this in the world of neutrons and electrons. We have seen this in the universe.

CUT TO ANGLE ON MILKY WAY

INSERT SOUND OF BUZZING

STAN

This is what FILTER sounds like...the U N I V E R S E.

CUT TO TRIPLE POINT LAUGHING

ANGLE ON STAN

STAN

FILTER reveals something I don't know if I have the skill, ability, or talent to properly describe. I have said that the FILTER sounds like the universe. And what does the universe sound like?

STAN

Is that what you're asking?

ANGLE ON STAN STANDING ON THE WHITE PRAIRIE

STAN (cont)

Is that what you're asking?

INSERT AUDIO EFFECTS

STAN

FILTER listens and selects and responds to Pauline's improvisations, her squeaks, thwaps, squeals, tones, gestures, voices of whales, car horns at midnight, mammalian cries, sighs,

INSERT STOCK PHOTO OF BUCK ROGERS

STAN

Buck Roger's daydreaming, inanimate kissing, insects transforming, electrons dancing, and FILTER adds it...

CUT TO DOUG

ANGLE ON HIS CLOSED EYES

INTERCUT IMAGERY MATCH TEXT

STAN

To Doug's improvisations, the wailing of factories, the hot torch of a thousand welders, neon in the sky, rings of Saturn burning, iron curtain closing in the eighties, shrieking of unborn CAD machines, ballet of sewing needles, magnets snoring, planets reversing gears and then FILTER transforms and adds it the sound of...

ANGLE ON JONAS

EYES CLOSED

INTERCUT IMAGERY

STAN

Jonas's improvisations...

INTERCUT IMAGERY

STAN

the baby's first cry, the butterfly landing, toil of eyelashes, reduction of national pain to a single note, tender flush of rain, grieving of roads at dawn, hot breath of mercy and then...

CUT TO SHOT OF PLANETS

STAN

FILTER burps and makes fits and starts with blips and squeaks and restarts and stops and coils and trumpets and

then sleeps and returns to hear and select Pauline,

ANGLE ON PAULINE HOLDING ACCORDIAN

STAN

then hear and select Doug,

ANGLE ON DOUG

STAN

and then hear and select Jonas

ANGLE ON JONAS

STAN

then FILTER listens, responds, and rolls and lets go and becomes an orchestra of listening, a way of receiving that I have never heard before, and before you realize it, FILTER is building to a deeper, wider, and more symphonic layer of complexity and you begin to hear it...

CUT TO ANGLE ON PLANETS, ELECTRON ORBITS, ANINIMALS, GREEN TREES

STAN

you begin to hear birth (morphogenesis) and you wonder if FILTER can hear you, too, (the sound of your heart) and you begin to hear it all coming together as a wailing wall, the wall between human and machine, planet and insect, but more clearly now, the wall between me and myself, the me that cries for himself even as he recognizes human frailty is humanity, and this wall of wailing sound, this great symphonic crashing wave-like surf comes down and then rolls away nearly too quickly and you find yourself wondering,

peering into yourself, discovering something in the sound of the universe that FILTER has selected to play for you, again and again, changing it in you, and in the wash of its strange hybrid posthumanity is one tone, the one note, the sound of desire.

CUT TO BLACK

CLOSE UP TEXT

What is the sound of desire?

STAN

DESIRE is the sound of this emergent connectedness that is at once with and without consciousness. Desire is but this sound, the sound of one all-encompassing note. It is a long, deep, and wide reverberating sound.

AUDIO NOTE

STAN

I recognize it. You would, too. You feel it cascading within your heart like a journey across all the scenes of your life.

MONTAGE OF YOUR LIFE

BIRTH

CHILDHOOD

WEDDING

CHILDREN

GRANCHILDREN

FUNERAL

STAN

FILTER plays with Triple Point and reveals the improvised and emergent sound of desire. What does it sound like?

STAN

This is very difficult to describe. But it sounds like ONE note to me.

ANGLE ON STUDIO

ONE NOTE SOUNDS

STAN

Listen to me, this sonic consciousness says, stay in this long moment of recognition, as long as you can, elongate this infinite moment across time and, if it is possible, allow yourself to change.

CUT TO BLACK

FADE IN

SOUND OF TRIPLE POINT AND FILTER

ON ANGLE THE BAND AND STAN SEATED IN THE CENTRE OF THE MAMMOTH
BLACK STUDIO

FADE TO BLACK



Figure 16 -- Self Organization in Nature

Biggest Friday



Figure 17 -- Triple Point

THIS NEXT SECTION IS ACTUAL TRANSCRIPT ON FRIDAY afternoon

We are standing in a loose circle. I realize now that the circle has become a kind of ceremony.

STAN

I was getting chills, during the climax of that piece. That things were, it was almost... It had that primordial feeling.

(They move closer.)

STAN

How did you guys feel during the climax?

JONAS

I felt really good. I think watched too much the NASA pictures this morning on TV.

PAULINE

Felt OK.

STAN

That's, that's, almost like the historical context for this morning because Curiosity is, I can't say it's landed, but it has, it has landed... its taking pictures.

JONAS

You know what the really interesting aspect about this is most about in a way we probably have similarities with our quartet and the MARS landing. If there's a similarity, then it's that it used much more machines and machine intelligence to augment things and these dreams about you know taking people to Mars. Imagine this thing is now roaming around for years and if you send three astronauts there they're probably going to stay for a few days and then they're going to get some rocks and go back so you really have a transition where you make much more use of machines and do a lot of things with machine intelligence.

STAN

I they should have asked you to play down there, NASA.

JONAS

I think the trip would have been too long for me. I wouldn't have gotten any permission from my family to leave two years.

STAN

But we'll know that this week is when Curiosity landed and it coincides really beautifully

PAULINE

It's a beautiful connection

DOUG

This whole residency is a probe as well.

PAULINE

Well this space is not exactly earthly. It's not. This is very strange transhuman space.

DOUG

Yeah I think you're right about that.

PAULINE

I like leaving it. I like being here but I like leaving it.

JONAS

In this space it's very difficult for me to judge whether the different song if there's something with my reed or if it's something in the room. And in some sense, it's a very neutral space. I can't say whether I totally love it or I totally don't like, it's just very different.

DOUG

In some sense?

JONAS

I think in many senses it's a very neutral space.

DOUG

Maybe yes.

PAULINE

Hmm.

JONAS

I mean I love it, it's a great space.

DOUG

Mmhmm...but...

JONAS

I love the fact that we're able to get the reverberation times out of it that we are. And I'm a bit surprised by that the difference between up and down because I had never heard them AV(?) like that. It's drastically different.

PAULINE

I think they sound so much brighter with the curtains closed what we are doing.

DOUG

Oh I think particularly for the brighter sounds on your accordion and for your saxophone.

JONAS

I think it's the curtains they damp a lot of the high frequencies but they don't really go north so you still have long times and you have low frequencies, but you have it very damped.

STAN

Since this is my last time with you recording can I each ask you, starting with Jonas to talk to each of your partners and kind of detail what you appreciated most about what they did this week?

JONAS

You know I really loved that we really had a week long to work on things. And that really was for me the best thing that we just got together and really had the opportunity. Everybody took time and made this really the priority to just get some really good songs. And I think we did from my perspective. So I thought that was for me really the best aspect of it all. You know that

we collected some good things. And you know usually by the time we set everything up we don't have time to play properly anymore we're so busy so, you know, having like two days lead way fighting this technology we're now at the point where it runs very smoothly. And we can really focus on the music.

I also appreciate that we made 2.0 because I think it sounds much more musical than one that a few months ago a year ago and I think, and first thing if you look at it at the first stage. It sometimes sounded good and it sometimes didn't get you know at least from a human point of perspective and then it was like it sounded like 80% of good and now I feel that it's really fun to play with. And it's not that you think, well you know we need to have this thing to do and that project. And it's really a nice to play. And it really has its own quality. And I really appreciate it and also I mean some of those loops-- it's unbelievable how its synthesized things together. This is true.

STAN

And before we move away from you Jonas what do you appreciate about Pauline this week?

JONAS

Oh I always appreciate everything about her. You know I appreciate playing with her. And you know that's really great because you know when you appreciate a lot about what she has. You know she's so full of ideas. And every time you think you're stuck with a certain paradigm or something, she comes up with something new. And I just love the sound of the accordion. And it's little bit in jazz my favourite saxophone player is Paul Desmond and what I like about Paul, you know he's very much different from me but you know what I like about him is you can listen to this guy forever--you know he doesn't do much different but it's just such a nice sound--you're not getting very often. And it's similar with Pauline, you know, you can just listen to it and you feel enriched by every minute you listen to it and --that's sweet. I like Paul Desmond too--and you know before I, well you know what the really interesting thing, it's a little bit off topic, but a really not a fan of alto saxophone and I always try to figure out why because I love the tenor and I like the soprano a lot but the problem is the alto has its form and space like a car honk If you don't play it right it sounds like a honky thing. It's really performance based and Paul Desmond has a really beautiful alto saxophone.

STAN

So there's a double meaning when you say you don't like the honkey thing.

JONAS

Yeah and I talked about Pauline, I should probably talk about Doug, you know. And what I really appreciated about working with Doug was that he has this great sensibility about moving and also making the connections and knowing how to move in and how to move out and today what I really appreciated I think the best movement I heard was like the super saxophone movement. I think it was the last take when we had like three saxophones- and Frieda played one saxophone and Doug played one saxophone and I played with the saxophone sound and I really enjoyed it how we started to have, I think that's one thing I really did enjoy in the last set mostly and this one is how those ideas started to flow between all of us and that was fantastic.

STAN

How about you Doug?

DOUG

Well, I'm going to start with the most current thing. I'm going to start from that and work backwards. And talking with Jonas and playing with him this week but actually before talking about playing--I definitely appreciate the amount of time Jonas has taken making sure that everything is running smoothly. And you helped out a bit with this: you were definitely manning this a while and I've done that in the past and I know how frustrating that is so that, just practically speaking is much appreciated.

Well, I think that we have a good intersection, I mean you took care of the stuff and all the electronics on this side and we had a good interface so that I could take care of the recordings. I mean you ask me why I don't do electronics, well, it's because there's enough stuff going and if you add another layer it's going to be manic.

And from the playing point of view first of all a lot of things that come out of Jonas's playing that I really love came out a lot this week in terms of these growls and rough sounds and in a really nice context that almost anticipates. I seem to be on the same wavelength when they come in I'm hoping that they come in and they very often come in at those moments. I've even, it's interesting, but this week I've in the past, but this week especially, I've found myself turning up your volume before you even start doing that because I'm exactly on the same wavelength as you that that's the right moment to do that so I mean that one take I absolutely love that the

FILTER decided to grab that and uh it just started moving.

I thought that the last two takes was extremely musical.

PAULINE

Absolutely.

DOUG

So your style and your anticipation and exactly the way you anticipate, I resonate very strongly with that so I appreciated that very much. Pauline I can't anticipate. [laughs] Not that I can anticipate either of you, but the modesty of suggesting that you have no more musical ideas and maybe you consciously don't but the perpetual injection of ideas, the continuum, because that's right--there is no one idea, it's a continuation a continual transformation of idea which can be in the same sound, but it could be a very slow shifting, how you perpetually inject that is as always an intense challenge to me and I've grown immensely in listening to you performing these last four years. I can't even magnify it because of this way you play and then throw in changing tones, you know, instruments completely, it's a just, this week was the strongest I've ever felt that because it's the longest time we've had to play but it's always there.

Your patience and sensibility about when your sound is not balanced is also really helps to get the overall sound to where it needs to be. The mass, it's through the technology but that final mass that comes out makes your ears and important audio engineer as well in this process. So, much appreciated there.

FILTER, I think I'm also very surprised because I've been playing duo with it lately and I've dozen a couple one-on-one with instrumentalists but this is the first time that 2.0 has come out and played so I don't fully know what it's doing all the time that's what I love about it and it just wildly surprised me these last two days.

Some nice surprises!

When Mary was here, auspicious and perfect. So I appreciate all of the timing of everything this week.

I think that might be the weird difference between FILTER and a lot other systems you see. With many other systems they get the good moments and then you tape it and you release it but I think FILTER has a point where you can just give it, if you had a mobile version you would feel comfortable enough to just give it to people so that they can just play around with, they don't have to wait for the gold moment to make something incredible and you know then you can put it on your webpage that's what I really like about it.

The real challenge now is actually having to listen to all of them and having to choose one. The inverse problem.

PAULINE

A lot of listening to do. So, my turn?

STAN

Your turn Pauline.

PAULINE

Well the word, there's one word that comes up regarding Jonas and Doug both which is dependability and through this relationship over the years we've been working together that to be able to pull this off today see you know its rooted in dependability and you know that it's going happen. There may be a lot of miscalculations along the way, I mean it's inevitable but in a tripping on wires situation- I have an article Stan it's called Tripping on Wires I don't know if you've seen that but- we're still tripping on wires

STAN

Yesterday, yeah, there was a little tripping on wires...

PAULINE

Right and it's a very rigorous and treacherous realm. I've been tripping on wires a long time and I mean the golden rules are is it plugged in, is it turned on? But from there doing the correct patch and balancing all these levels this is a very critical task and its again very treacherous the different gain stages that have to take place. Anyways so dependability comes to mind, you

know, and so what I appreciate about Jonas is his openness to trying things, you know trying out a lot of different things to try and to see what's workable and also his tenacity I mean there's a tenacious person here who has worked countless hours you know in terms of the proposals that we've made and the fact that we've been able to because of the proposals both Doug and Jonas, Jonas is the person who has pushed it through so that we have the funding to do this, to do our work, for Doug to create this wonderful musical instrument interface, so I just want you to know I really appreciate that a lot and that we couldn't, none of us could do that without each one of us, without each other so that's important so that's, there is a dependability factor here that's important in this community of three but it goes way beyond the three of us because, I mean Jonas brings in many of his students, and then we've had many do wonderful work through that, that's been really important in the development of everything. Then, let me see, I mean there's a lot of things I appreciate so... We've had a lot of fun!

DOUG

We did yeah!

PAULINE

And we laugh a lot. That's good- I like those laughs. We've had a lot of good dinners together and gone places and done things and this is good. So, I think it's very auspicious this residency towards the beginning of this fifth year of this project because there is a kind of turning point here in this residency of maturity that I think will carry us through this last year. Well it's not the last year, but I mean the last year of this funded project. So I think this is good. Another thing to appreciate is the way Jonas gathers information and people to in support of what we do, so that, thank-you. I mean I have more but I'll save it.

DOUG

I concur with all of that by the way, definitely.

PAULINE

And of course Doug I appreciate that he's very faithful to the artistic idea and ideal so that faith is very very crucial in terms of how we have managed to get to this point and again I mean it's that's a dependable part of your work with us, with me and with Jonas, and I know that I mean I know about the reliability that is there and this is, how long have we been working together?

Since 2002?

DOUG

2002 I think we, just about January 2002.

PAULINE

So that's a nice long time and you know it feels like that there is an important colleague has arrived at this point, that's what I think, and out of that collegiality, we'll see where it goes, you know, but it's but I know it'll be there, wherever you happen to be, because you know that's been very important in terms of all of the development of all the telematic work that we did while you were at McGill you know and how you continued to participate with us all through that time and all of that counts it adds up into experience and association and feeling of trust I mean that is, its essential, besides that I like hanging out with you and Stacy and the cats. OK that'll be enough for now.

STAN

Well you know it's amazing how you pack your music with this caring relationship that you have between the three of you and your understanding of creation is in that music so your music is about a kind of creativity that I found very distinctive. It's not the regular creativity of artists. For one thing you're on the plane of improvisation, which is not necessarily the lowest plane of creativity. You're also improvising with a machine. You're also your music is about a trans humanity or a post humanity where you're using sound to tell us how to grow our consciousness or to evolve consciousness and I call that co-evolution- you're evolving with this machine and you're evolving together as you grow and you can really hear the maturity. It is cosmological. The sound is very... It took me a long time to catch up to the sound because I had to really concentrate and think about it but your sound is mind-blowing, it really is and you know Pauline was talking about it yesterday--sometimes you have to just record it and wait a while and listen and I hope that you do because if you're listening the way I'm listening to it, it's really crackling not just with ideas but with how to live, right, how to live in a way, like I go home transformed because you taught me a little bit about how important it is to live creatively, but creatively in really interesting ways and you're really living it, you're really living on the edge you know being creative with this machine and having this machine help you evolve it's what Pauline calls quantum improvisation and it's been a really great privilege to see how much you care about each other individually, I've learned so much from how much you care and how much you put into this relationship and you know I came here as a stranger and

as the ethnographer on the outside and I've been so privileged to see that what you're doing is really just another way of living beautifully and that's been just great to watch. So I know I appreciate you allowing me to come in and be the witness and I'll do my best to be able to reflect what happened here but of course the tapestry is so rich and complex it's almost impossible. I mean, that's why you call it FILTER, because we only get to have a little bit, we only have so much cortex. We have only so much cache to handle it. But it's been so exciting, so thank-you all of you.

PAULINE

I thank you for coming...

JONAS

It's been really inspiring to have you here and you to also have your feedback which some of the, you know you really have to digest our music, but you know also I have to digest your feedback because you know they are very important thoughts and it probably takes some time to understand some of it but you know I can tell you that you are a very keen observer and you observe things that weren't clear to me but when I hear it it makes perfectly sense to me.

DOUG

Yeah I think as much as you talk about coevolution and growing with this machine I feel that I've grown by your perspective, your outsider perspective of observing this process. It's been really important for me to understanding what we were doing here.

STAN

Well I didn't know what I was doing here! Pauline didn't tell me anything. Pauline just told me, you know what she tells everyone, 'Be Ready- for anything'.

DOUG?

She also didn't say anything about you, you know, in the least. Just that you were going to be here.

STAN

I didn't know! In my notes- I have filled an entire note book- there are so many things I just did not expect I didn't really know what I was doing for quite a long, at least until Tuesday afternoon.

STAN

Welcome to the club!

JONAS

None of us know what we're doing but we're doing it.

STAN

You know I have all these books on performance ethnography? None of them know what they're doing either because you have to invent it in for every situation, how you're going to research this.

PAULINE

Well you know the thing is that too many people, people for too long made it too easy when I was studying music at the college it was all about how the instrument tunes and what scale you play and how you write down what they play and the people didn't want to understand what the people playing music and what's behind it and what they do when they happy and what they do when they sad. It was like very technical thing and you know they made it very easy for you and didn't necessarily help you to understand the why behind it. I can show you transcription from Cookhouse. 1970s he went to India and transcribed Indian music. You just see the transcription and you just think 'nobody's thinking that complicated. Nobody. They might think very interestingly, differently but the details in the transcription are purely technical and was not reflecting on what people actually thought and what they did.

STAN

But your music is pretty complicated. Like when I write about it and I have to write about it in ways that the reader can understand what the experience feels like, and it's, most people have never heard of this kind of stuff...

PAULINE

That's right...

JONAS

Well we haven't wrote this kind of stuff until today. That's the nice thing you never know what you get I mean that's just part of what I you know sometimes I like to classical music but sometimes I also I don't like that I know what I'm going to get the next minute.

STAN

Yeah I sometimes think when I talk to each of you I see a FILTER of who you are at that moment but when I hear you play the bandwidth is much bigger on who you are. Much bigger. More empathy. More caring. More listening. More maturity. More you know, just a bigger self.

PAULINE

I think that's important. I think that it should be that way because there's amplification of the relationships that're going on. That's what's getting amplified and the music is carrying that.

JONAS

You know what I really do like is that you don't have any rules. You know if you drive a car it's like it's fun to drive fast but you have a rule and you have the sign on the car and in many other you have convention and you have hierarchies and other things and if you music, it's almost like, you know, it's a system that's not made of rules and you can negotiate things and you can experience things and you know that's what I really like about music is that you can... And that's also one thing, I mean Pauline taught me a lot about this too. But that's also that people try to put rules on music and they say you can't do this and you can't do that and one of my best experiences of music was going to Japan and it was in Tokyo, one of the most famous universities on traditional music and they had this player and it's like whoooooa because they don't articulate the reed with their tongue and I thought great if you would have played the saxophone like that in the western conservatory type of educational system they would have kicked out the next day, they say 'well you can't do it'. And you can you know, you shout it, it sounded great you know if you accept this as a way of performing an instrument. I think that's also part of what we try to do is really see are they natural boundaries or are those boundaries artificial and they just man made and they need to be destructed.

DOUG

You know talking about this bandwidth of expression and communication, for me that channel and the size of channel is the only thing that matters, it's the only essential in life. And I personally pour all energy and what I gain out of a person through channels such as that and it's almost like all other ones don't matter that much. If they completely went away for me I almost don't think I would care, Let's say they went away for a month in the world and that was our only mode, I would love that, I would absolutely love that. The only means of communication and expression that truly truly matter to my mind. Cuz then, you know. And we all have our own modes for doing that.

PAULINE

Well some people are pretty closed off and they don't give you much channel. If you give off a pretty small channel...

STAN

And that's the heart of why I appreciate Deep Listening actually, as a community and as a practice.

It was so interesting when that other band came in here and tried to play. It was another, it was good contrast to see how hard they tried, how hard it was for them to open up their bandwidth.

PAULINE

They opened a little...

STAN

Yup. Well, they were trying and it was really funny because FILTER was grooving today, there was a very strong rhythm that was you know doing this (snaps finger) a little bit and contracting and expanding.

PAULINE

We haven't played a march yet but you know maybe one day we get there too.

JONAS

A march?

PAULINE

A march yeah.

DOUG

I was thinking about that toe tapping yesterday and it reminded me of why I use this because this is human and this is not really. Being able to work with a toe tap and create a groove was really important.

STAN

You know most, you know 90% of my life, what I want to say to people is to let go and be more creative, I always want to say that to people because their potential is wrapped up in their own sense of limitations but I don't need to say that to you three. It's always surprising. It's been very surprising. I don't know how you do that, but you do.

JONAS

I think creativity is one of the big unknowns and that's a part of why we also received the grant and others couldn't care less about music unless its music in the technical education and they have mandates that they are not allowed to fund Art because that's the National Endowment for the Arts, but they're very interested in creativity because they see that those machines are not very creative. They might be very good at playing chess and now they're good at playing Jeopardy but they're not very creative and that, to understand, I don't think I understand, I wish I understand why we're creative and how we're creative. But I think that's a big knowledge gap we have because we're always taught scientifically and also the way we do science, there are in some cases some better approaches to science, more creative approaches to science. A good example is the invention of Graphene. I don't know if you've heard of Graphene, but it's basically one layer carbon with a base adjusts and that lab of people were just experimenting and they had like 20% of the time were just goofing around you know doing crazy stuff and the other 80% of what they were doing, you know usually what you do is you write a proposal and then you stick to exactly what is in the proposal and they did that but the 20% they just made nonsense but then the nonsense we gave them a Nobel prize because it was part of just playing around.

STAN

Well my research is a part of creativity research and my thesis is that consciousness is the best representation for human creativity. Take it literally if you want paradigm breaking creativity sonic consciousness tells us that we need to do it in coevolution with technology and machines. That's how we take it to the next level.

JONAS

I agree with that.

DOUG

You know Stan, I wish that when I give a talk on my own practice and the creation of GREISS and FILTER- I have sort of a talk I give that whole thing- more people in the audience were like you because it's a bit difficult to talk about the research creation paradigm because it varies drastically depending on whether there's artisans and composers in the room or whether there's technologists in the room. There's such a strong sieve in having to separate those two things into one or the other to try to make sense of it before the presentation even begins.

STAN

Yeah. You are all working in what I am calling morphogenesis: the creation of the new. How does the new get created even from the cosmological level: how did planets get created? At the biological level: how did new forms get created? You guys are accessing biological algorithms to look at this ability to actually increase the bandwidth of possibility. So, Pauline's work is all about what's possible. For Pauline this is possible, for most people it's like this. We all have to learn to express ourselves with a bigger bandwidth.

Sonic consciousness gives us the best way to offer that to the rest of the world. Most people are visually, think it's visual- it's so not. That's why... I never thought my research would take me to music!

DOUG

No way!

STAN

I'm studying improvisation- improvisation takes me to music because music is the epitome of this type of creativity. I didn't want to study music; this is just where it goes. I didn't intend to study Pauline, this is just where it goes.

My questions all pointed toward Pauline. This is where it is. This is where. You know, I'm egotistical enough to think that this is where it is. I think it's right here. I don't think anyone else is doing it; I know no one else is doing it. There is no other Pauline. There is no other Doug. There is no other Jonas. There is no other this kind of performance in this space that you're really lucky to have.

DOUG

Very fortunate.

PAULINE

Well thank-you Stan that's very nice.

JONAS

Absolutely. That's very affirming.

STAN

Keep going.

JONAS

Well now after this great conversation we have the task to break things down. We had this discussion, you know Stan and I discussed this morning why we wouldn't make try to come on a major label with this type of music and I said I'm not really interested in money- that you know is a priority thing, but we had enough people just break this down we could go home I would go for it!

DOUG

Well it's funny because I feel like my world is a major label but it's funny to reflect on how so not it is.

STAN

You guys gotta get on iTunes; *Triple Point* needs to get on iTunes...

PAULINE

Triple Point is on iTunes...

DOUG

Is it?

PAULINE

...Sound Shadows is on iTunes

JONAS

Sound Shadows oh that was one thing we got out.

PAULINE

We have to use the network to get, let people hear and as soon as people hear it will exponentially grow.

DOUG

Well I'd like to see that. I'd like to see that happen. We've got a lot of investment in this: artistic investment, creative investment.

JONAS

And we've got great material now.

PAULINE

Well we've got plenty of good material and I'm sure it's going to be releasable.

The Last Dinner on Saturday Night

We are off to eat Polish food at Muza on Congress Street. Another opportunity to eat together. Jonas can't make it; he has a young family, and he's sacrificed quite a bit this weekend.

I have nothing to do before the six pm. So I scout the location of the restaurant. It is in an older part of town. There is construction at the foot of Congress street. They are making curbs and sidewalks. You can barely see the restaurants. It is built into a hillside. It looks like it was once a house.

The buildings around it are very old, probably more 100 years old, but these are warehouse buildings, not heritage treasures. So this area gives you a sense of something. I drive around the area, up and down to where the transmission towers and the water towers are located. I see how beautiful rural Troy can look with its narrow streets, large lots, and little acreages. For some life is pretty good. But as you go down to the river, the topography changes. It is drier. I park the car and sit in for a while sending emails. I can see drug activity, a regular visitation of cars picking up a little something for a Friday night perhaps.

There is a banner that says European Foods.

They arrive together in a big van. It is another hot night.

Entering, you are immediately put in front of the kitchen where familiar smells waft. A small dining room is to the left for larger groups, but we are brought to the small dining section to the right which has a few tables downstairs and a few upstairs as well

We get a good table. The group is in good spirits. I'm happy we're together. Doug brings his wife. Pauline brings lone. We order drinks. Pauline has dealcoholized beer. Doug orders polish beer after quizzing the server. We all want water. It's outside. I have lemonade. This is our last dinner together and we talk about silly things, trivial things, and fun things. I talk with lone about her books, her life in Saratoga Springs, and her operas. lone is a very complex yet light person. There is a great deal to her. She practices psychotherapy; she writes operas; she travels to Egypt a great deal and identifies herself as Nubian.

Before dinner, I have already researched what it means to be Nubian. At first I think it is primarily an imaginative construct, this act of believing that the ancestral home for African Americans is this lands located in southern Egypt. But she goes there. She knows people there. She acts like it is her home. The narrative feels quite believable to me, no matter if there is some kind of historical evidence or not. lone has taken the dream of African homeland and made it real. The myth-making has created a reality, and I ask myself what is wrong with that. Many people who are generations away from their homeland make spiritual pilgrimages. I guess what matters is what you believe. And I'm sure for lone it is more subtle and complex than what I am suggesting here.

It is a matter of the narrative it seems.

We eat and laugh and drink. Polish food turns out to be quite good. My dish is covered with a big potato pancake. Beneath is beef goulash. It is good hearty food. I have Czech beer. The Muza special, stewed beef goulash sandwiched between two large potato pancakes, topped with beef gravy and a side of sauerkraut. We hug and say goodbye, and then it is over.

ANALYSIS

I of IV and the Stages of Quantum Listening

“Quantum listening is listening to more than one reality simultaneously.” Oliveros, 2010, p. 74

This section concerns listening to listening. When you go deeper into something, it is sometimes difficult to understand the recognitions in the journey. These recognitions, the sometimes nearly unnoticeable but yet significant shifts in one’s thinking can be ephemeral and difficult to chart. In the following, I would like to focus on how my listening to Oliveros changed. This focus on my listening is aimed at better comprehending how listening becomes a recognition and perhaps a transformation.

I of IV is Oliveros’s first recording and arguably most important. It was recorded in 1966. I chose the composition because Oliveros and others (Mockus 2008) consider the piece a significant example of her work. *I of IV* is an example of improvisation in real-time, so it may be helpful in understanding Oliveros’s improvisatory practice; *I of IV* also contains non-linear delay systems that were carefully arranged (Mockus 2008) to produce improvised sound; this structure may be connected to non-linear systems theory. Finally, in *Sounding Out*, Mockus refers to Katherine Setar’s analysis of *I of IV* (Mockus, 2008) which suggests that the piece overwhelms the listener’s ability to focus attention. I aim to validate Setar’s view and suggest an interpretation that hints at Oliveros’s view on the nature of perception and consciousness.

Deep listening employs depth as a decentering and nonvisual metaphor. For Oliveros, depth is a suitable nonvisual metaphor because it begins at the felt level and then implicates

consciousness: “Deep listening takes us below the surface of our consciousness and helps to change or dissolve limiting boundaries” (Oliveros, 2010, p.79). When I consider my own journey of listening to Oliveros’s music, I do so in the context of three levels that implicate both her principles of sonic mediation and her notion of quantum improvisation.

Three Levels of Listening to Listening

1. Experience of Disorientation.
2. Awareness of the Constraints of Listening.
3. Immersive Disidentification.

These three levels do not occur as linear and developmental but, like Oliveros’s long accordion notes, they vibrate and are fused in an overall process of “disidentification.” Disidentification is a term I am borrowing from Jose Estaban Munoz, a postcolonial scholar, who uses the term to better understand how minority cultures create survival strategies:

Disidentification is about recycling and rethinking encoded meaning. The process of disidentification scrambles and reconstructs the encoded message of a cultural text in a fashion that both exposes the encoded message’s universalizing and exclusionary machinations and recircuits its workings to account for, include, and empower minority identities and identifications. Thus, disidentification is a step further than cracking open the code of the majority; it proceeds to use this code as raw material for representing a disempowered politics or positionality that has been rendered unthinkable by the dominant culture. (Munoz, 1991, p. 31)

I suggest that disidentification is a productive way of examining the process of listening to the unfamiliar. It may also be an interesting way of examining Oliveros's career. The concept of understanding how minorities survive in dominant culture echoes Mockus's thesis in *Sounding Out* where she posits that Oliveros's work is characterized by her lesbian identity. For me, the disidentification "turn" in Oliveros's work is less a specific concern with sexuality, and more an ongoing concern with identity, desire, living an ethical life, and how music might play a role in individual and human development. I submit that this turn toward disidentification privileges the ethics of sonic meditation rather than avant-garde paradigms of electronic music:

I began to understand that many people were not being heard (something especially true today both locally and globally). I recognized that being heard is then a step toward being understood. Being understood is a step toward being healed. Understanding is a step toward building community. (Oliveros, 2010, p. 232)

Disidentification is a conscious process of at once discovering, recognizing, and preserving identity. I use the term here to describe a form of sonic disidentification, a process of awakening one's sonic identity/history/agency shaped by the sociocultural processes of normalization: "I have faith in listening. Listening brings me to faith --faith that I can believe my ears as much as I can believe my eyes" (Oliveros, 2010, p.23). For Oliveros, sonic disidentification is a way in which people discover new ways of listening and thus new ways of being heard.

One - Disorientation

At first I was disoriented. I was disoriented as I listened to Oliveros's catalogue of many

recordings. I know what kind of music I prefer, I thought. I have spent many decades composing, performing, and listening to music.

I like what I like.

The disorientation that greeted me was provocative because it reminded me of how disorienting it might be for anyone who confronts something that feels new. Disorientation like many other phenomena is illuminated by sociocultural analysis. There are many “rehearsals” of feelings in disorientation.

I preview myself shifting and becoming.

In a sense, disorientation in music rehearses one’s continuum of responses when dealing with the unfamiliar. For Munoz, disorientation is evoked as a survival response in the context of oppressive political and social issues surrounding gay and queer culture. In her study of Oliveros, Mockus focusses on Oliveros’s feminism and lesbian identity and details her impact upon culture, but for Oliveros listening is much more expansive. While is very interested in the sociopolitics of sexuality, she may be more interested in the sociopolitics of perception. Why does Oliveros listen? “Curiosity could be the answer and the possibility of expanding perception of the sonorous body that we inhabit” (Oliveros, 2010, p. 23).

This music is not melodic.

I was looking for melody. I was looking for “sweetness.” I was trying to hear something of what I was used to. In other words, I was listening for recognition inside the music so I could match it with the familiar. This music was not jazz. It was not classical. It did not follow specific musical keys. I began to realize that following this music was not about following something. Von

Gunde (1983) suggests that 1 of IV is the sound of electricity.

The sound of electricity?

I was intrigued by this assertion because it suggested that Oliveros was perhaps working outside an anthropomorphic perspective. In other words, this was not about personal *human* expression; there were no obvious melodic riffs, choruses, or repeats that came from a human cultural tradition. I wondered, is the sound of electricity cultural? I could not feel the constraints of this consideration, one might say, because I kept asking myself was electricity a human sound or not? Others would say, perhaps simply, this music is not to my taste. I don't like this music. In me it creates a recognition:

It is even a step to admit to myself: I don't understand this music.

And perhaps such a recognition is the gateway to expansion: accept that the music is not yet music to my ears yet. But upon listening, it soon began apparent to me that I wanted to overlay my own structure of the familiar over the music. It was only when I sought out an "interior" structure, the one formed by questioning my own sociocultural conditioning, that I began to make further discoveries.

This music has no rhythm.

Almost all the musical forms in my experience corresponded with a time signature, a set of beats.

Where is the thump, thump? Bang, bang? Shimmer, shimmer?

There are no drums in this work. There is no countdown by the leader before the music starts. There is no beat. No “heartbeat,” as is common in western and non-western music. There is no toe tapping. Is a heartbeat some kind of sociocultural construct? Not a primitive creaturely sense of beat, either? The desire for rhythm is a near shocking example of sociocultural conditioning when you discover it in yourself. It was difficult at first to recognize the need for something that was not there. Or was it? It was a lot easier to say, as many do, this music is not to my taste.

Not to my taste.

Taste? Then I began to think of rhythm like flavouring, like, perhaps, sugar. From my notebook: “rhythm makes sound easy to swallow.” Perhaps my sonic taste buds had been oversaturated with obvious rhythm. Could I find rhythm without seeking to impose my own internally culturalized sense of rhythm?

Perhaps I can characterize this in terms of indigenous theory; I felt like a colonizer. I wanted to impose my colonial truth on these “native” sounds, to “civilize: this music. Pauline’s words haunted me: “Listen to everything until it all belongs together and you are part of it (Oliveros, 2010, p.7), she wrote, and then: “The quantum listener listens to listening” (Oliveros, 2010, p.87). The phrase “listening to listening” continues to vibrate within me, not just as a scholar, but in my daily walks with myself and with others. It continually reminds me of the cultural residue I bring to every situation. Listening to listening brings us alive to the differences created by our conditioning.

How am I listening to this?

I asked myself this continually while reviewing Oliveros's catalogue of songs that are stored on my smart phone. I asked it again and again in the studio in the corner of the vaulted black box in the studio in Troy, the anthropologist outsider, fellow researcher and academic. At first, every song appeared to have no structure that I could comprehend. It had no melody. The voicings occurred simultaneously. Unlike jazz, there was no democratic turn-taking. *Triple Point* played different things in unison. It sounded like noise.

Was I permitted to think of it as noise?

Chaotic sound. Plus, there was reverberation, delay, echoes, and what Doug van Nort kept calling "gestures." I didn't understand or comprehend reverberation because it came from everywhere. Why was I trying to locate the lower notes in the mix? Was this again, a function of me, of my listening primarily to conventional music? But as I became more aware of myself trying to use the familiar to understand the unfamiliar, I tried to switch my thoughts. I tried, instead, to listen in a different way using some of the principles Oliveros teaches in sonic mediation and some of my own work on improvisation. Could I listen without a referent?

Aha. There is that word referent again!

Without imposing an external referent, I began listening for referents inside the polyphony. Was there order here? But I kept bumping into an obstacle.

The obstacle is me.

What was going on inside me? I began thinking about my ears as a mouth. What had my ears

been consuming? What had formed the basis of my listening diet? What sounds had been conditioned by my appetites to be interpreted by me as music?

What does my culture call music?

And then like those people on the verge of death who see their entire lives flip past them in fast motion, I began flipping through the audio clips of my life.

What does your life sound like as a series of fast-forwarded audio clips?

One, two, three. Zip, zip, ding, dong, jingle jangle, bang bong, tinkle, tinkle, shshshsh, puhhhh, tsch, tsch, kechunk. Bang.

The music I have listened to in my life is akin to a diet entirely composed of eating in western fast food restaurants.

What does fast food music sound like? Like sugar and fat. Like impatience. Like a drug. Like instant gratification. Like consumption.

I recall my father's interest in Latin music. We danced and felt the beats in our bodies. Later, my father played Leonard Cohen which I found mysteriously odd--a disembodied voice. My first album was the syrupy yet phantasmagoric Beatles' *Magical Mystery Tour*. We sang church hymns from the United Church we belonged to and an annual parade of Christmas carols reverberating through countless Decembers. In Montreal, in grade six, I slow danced with a girl for the very first time to Edward Bear's "Last Song." The same song ended all the school dances when I was a teenager in the seventies: "Stairway to Heaven." What else? Punk and new wave

and synth pop and Miles Davis and all that piano music my sister played in the basement of the church. All those late nights in the car listening to the radio, to Marvin Gaye's Vietnam anthem "What's Going On," to Philip Glass' Koyaanisqatsi and then REM, U2. Inside the cracks of the musical diet of my life there are Gregorian chants, African beats, Paul Simon and Sting, and so-called world music--all the sounds that formed me, and that I call--music.

And there is now, in the second decade of the 21st century, the ever familiar sounds of nostalgic radio--the hits from all those decades gone by. And even in the new music I listen to, from Deadmau5 and the "adult alternative genre" of music from CBC Radio 2 to bands like Wilco and Arcade Fire that form my current "taste," I recognize here the influence of genre, of familiar patterns and structures that form the genre's constraints, and I understand more deeply how my listening has been formed by western, globalizing, consumer culture, by a steady diet of music that reinforces and is created to appeal to a learned desire for melody, rhythm, and structure. That music is like a constant diet of hamburgers, fries, and cola. Sometimes the meals varied in quality and style, but basically the meal has been the same: this is western popular music in much the same way that McDonald's represents a clichéd but perhaps valid representation of the stereotypical western diet. But this is not moralizing about taste or health diets. This is about disorientating ourselves from what is.

In the black box I sit.

I sit in the studio with *Triple Point*, and I try to listen for the very first time. The first time. And all I feel is disorientation. Who am I? What choices? What agency do these ears possess?

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For the second level of this analysis, I began studying Oliveros's first electronic piece. What follows is a creative exploration of 1 of IV.

I of IV is one of Oliveros's most important pieces. When I received a copy of it perhaps a year before I met Oliveros, I spent hours listening and listening to it. I read the early reviews and read their summaries by current critics in Mockus's book (2008). Then I asked questions of Pauline, and then I went back for repeated listening. Yes, I was disoriented at first. But what emerged after the disorientation?

Anything?

Combination Tones and the Constraints of Listening

Oliveros states, "My intention is to compose, improvise and live in a heightened state of awareness of sound, silence and sounding" (Oliveros, *Anthology*, ii). But how does one listen to Oliveros? How did I listen to my own listening? The second part of my journey began by listening to myself learn to listen to Oliveros's *I of IV*.

Some basics: like the music itself, there are many layers of recognitions available to the listener of *I of IV*. First, I recognized that it was recorded in 1966, and it is Oliveros's first electronic music release. Why does it sound as if it were recorded yesterday? Is that me again listening to listening? This is a significant recording in which sounds are seemingly automatically created using a combination tone or ghost tone concept. It is also notable for its recording method of delayed feedback with two recorders fed into speakers.

I of IV is also notable for its ideas--the ghost tone concept is a kind of philosophical statement. *I of IV* is a significant recording in electronic experimental music because it improvises and uses non-linear real-time feedback—it improvises with itself. Oliveros deserves credit as a pioneer, not only of electronic music, but of the sound philosophy inherent in her work. There is growing recognition of Oliveros as a technological pioneer, especially of the human/machine interface. One of the reasons recognition has been slow in building is that listening to *I of IV* is challenging. Oliveros's first electronic release resists easy assimilation and exposes and resists familiarity. In my view, it hybridizes what we think of consciousness and prefigures her work with *Triple Point*.

What are Combination Tones or Ghost Notes?

These “notes” are also sometimes included in a process called heterodyning: an underlying element of many early electronic musical instruments: two ultrasonic signals of nearing frequencies are mixed to create a third signal. The combination results in a third signal that is equal to the difference between the first two frequencies. Here is Oliveros's own view of the process:

Soon, through improvisation, I was creating my first electronic music. In creating my electronic instrument with the oscillators, the huge dials that had seemed so unfriendly to performance now became receivers for the musical knowledge embodied in my hands and fingers. I had created a very unstable non-linear music making system: Difference tones from tones set above the range of hearing manipulated by the bias frequency of the electromagnetic tape recording, feedback from the second tape machine in parallel with newly generated difference tones as I responded instantaneously with my hands on those dials to what I was hearing from the delays and

as the sound were all being recorded on magnetic tape. (Oliveros, 2010, p. 257)

What is Oliveros's Intent in *I of IV*?

When I was sixteen, my accordion teacher taught me to hear combination tones. The accordion is particularly able to produce them if you squeeze hard enough. From that time, I wished for a way to eliminate the fundamental tones so I could listen only to the combination tones. When I was thirty-two, I began to set signal generators beyond the range of hearing and to make electronic music from amplified combination tones. I felt like a witch capturing sounds from a nether realm. (Oliveros, 2010, p.105)

When Oliveros speaks about *I of IV*, she makes clear that she is attempting to eliminate what she terms fundamental tones. Here is an illuminating declaration:

In one electronic studio I was accused of black arts, and the director disconnected line amplifiers to discourage my practices, declaring that signal generators are of no use above or below the audio range because you can't hear them. Since all active processing equipment contains amplifiers, I found that I could cascade two pieces of equipment and get enough gain for my combination tones to continue my work, plus the addition of various amplifier characteristics as orchestration." (Oliveros, 2004, p.106)

The above statements are worth examining and summarizing. Both contain a number of points that differentiate *I of IV* from typical formulations.

1. Oliveros compares herself to a witch, which has obvious feminist tones as well as suggesting the forbidden (Mockus, 2008). This can be connected to Mockus's suggestions that Oliveros's project is lesbian because it confronts/intention/desire. It also calls to mind witch trails and the risk someone, especially a woman, takes when she challenges the status quo.

2. Oliveros states that she wants to eliminate the sound of "fundamental tones" which exemplifies her interest in the exploration of hidden perhaps "nonconscious" forms of knowledge. She has a strong interest in perceptual states and in perception generally.

3. Oliveros is obviously interested in making the subsonic sonic, the unheard heard; she wants to hear combination tones that are triggered by tones beyond human hearing; this suggests an interest in nonhuman sounds. The idea of listening to nonhuman sounds prefigures sonic consciousness and Deep Listening.

4. Oliveros describes the process as capturing sounds from a "nether realm" which amplifies her long interest in the mindful properties of sonic consciousness. The use of nether realm captures not just a culturally forbidden space, but a space, to use the depth metaphor, that exists below the surface and remains physically distinct. And deeming this space a nether realm evokes the underworld and all its spiritual elements. It is worth noting that combination tones are referred to as ghost tones.

I of IV is highly experimental. The word "music" grasps neither its intent nor its impact. We can agree that Oliveros's stated intent is experimentation, but what exactly is the hypothesis at work? What experiment might she be carrying out? The "witch" and "nether realm" analogies as well as references to "black arts" indicates a forbidden element to these experiments and as well as a kind of acoustic alchemy. Oliveros's words also suggest she is working in dimensions that are beyond human consciousness. For Oliveros, exploring sound that is beyond human

hearing is clearly not a metaphor: it is a literally what Oliveros is attempting to do: create sound from frequencies that humans cannot hear, to go beyond human consciousness. But why?

Given Oliveros's intent, one would expect *I of IV* to be less of an exercise in music than a scientific experiment in recording sound. But what emerges after much listening is something musically, emotionally, and conceptually. This may indeed be the same sonic territory she explores today, many decades before Oliveros launched Deep Listening. The explorer is not my metaphor. Oliveros discusses watching Buck Rogers and the early days of popular science fiction on television as a key musical reference. In fact, the sounds associated with science fiction popular culture is a topic in itself in Oliveros especially given the confluence of imagery and audio to create a sociocultural set of expectations concerning what reality "sounds" like:

I conceive of the sonosphere as beginning at the core of the earth and radiating in ever increasing creative connections vibrating sonically through and encircling the earth. The sonosphere includes all sounds that can be perceived by humans, animals, birds, plants, trees and machines. (Oliveros, 2010, p. 23)

I suggest that exploration is a critical part of what she is trying to do: she is a pioneer of a type of audio that emerges from unknown acoustic frequencies made available to the human ear

Again, I ask again, why?

Oliveros repeatedly states that she is interested in consciousness and sonic consciousness remains her frontier. She states at the end of a 2004 essay that she is pursuing nothing less than the sound of thinking: "If we could hear the micro-world, we would probably hear the brain functioning" (p.106). She states in the *Journal of Visual Culture* "that we are of course

protected from constantly hearing and perceiving the sounds of our body such as the sound of cells dividing, of blood flowing or neurons firing. However we can tune into these sounds voluntarily with the aid of technology (Oliveros, 2010, p.23)

But *I of IV* concerns far more than neurons. Alvin Noe, a researcher of consciousness, suggests that consciousness happens outside the mind: “we must pass the boundary of the skull, he states, “consciousness does not happen inside; it’s not like digestion; it’s more like a dance” (Noe, p.3). This parallels Oliveros’s assertion in *I of IV* that music can originate outside the range of human hearing through ghost notes or differences notes. While this may seem like magical thinking or the “black arts” as Oliveros states, it is entering a zone where human hearing and non-human sound-making converge: Oliveros (2010) calls it a “time machine”:

“Present, past, and future occur simultaneously with transformation. What I play in the present comes back in the future while I am still playing; it is transformed and becomes a part of the past.” (Oliveros, 2010, p.116)

This association between machine and human is an obsession with many early sound researchers, but from Oliveros’s perspective the result is not science, but a kind of sonic experiment of discovery that brings nonhuman and human sources together: “it seems important to me, after more than forty years of dealing with my way of making electronic music (both analog and digital), that we need to find a way to work with non-human forms that can present us with musical intelligence and new challenges” (Oliveros, 2010, p. 260). She asks a question more in keeping with those working in quantum physics, neuroscience, and cognitive science.

If we could find a way to apprehend the universe, the universe that encompasses frequencies below and above the human ear, what would the universe sound like? *I of IV* is an experiment

concerning this question about the sound of universe that prefigures the mindfulness practice of Deep Listening and connects her work of 1966 with her work today which includes not only the machine and human interface but also the notion that there is an emerging universe to be apprehended through listening, (if only we could learn how to listen). So the notion of *I of IV* begins to shift for me as I begin to understand the foundation and interrogations within the recording.

I am moving past disorientation in recognition of the “constraints of my own experience,” and this process of hearing myself might be a form of disidentification. This is not about “my” kind of music. This is about disidentification with the sociocultural boundaries of what I call “me.” The stakes for Oliveros are much bigger than experimenting with sound or creating interesting music or devising something new. In July of 1966, Oliveros is perhaps chasing the consciousness required to perceive an “already existing New,” not new sounds, not new technology, and certainly not the “plain old” new within the genre of experimental digital music. For Oliveros, a “new” sound is not something that has yet to be sounded; on the contrary, a new sound is something that has not been heard. A new sound, for Oliveros, suggests a quantum dimension to listening; so the question must be asked, what then is quantum listening? And how does this impact how we might listen to *I of IV*?

STAN

Pauline, so how do I listen to *I of IV*?

PAULINE (smiles)

Stan, I’m not going to tell you.

I of IV did a lot more than disorient me. Oliveros would not answer questions about its

“meaning,” (and I asked at least three times). So I refer to two key statements concerning quantum listening: “Quantum listening is listening to more than one reality simultaneously” (Oliveros, 2010, p. 74) and, “What is heard is changed by listening and it, in turn, changes the listener” (Oliveros, 2010, p. 74).

The last statement concerning the change to the listener is one of the principles of theatrical improvisation: be altered. How was I to be altered by *I of IV*? The quality of my listening depended, so I believed, on the quality of listening. Could I experience quantum listening? Could I hear more than one reality simultaneously?

Immersive Disidentification

I confess: listening to *I of IV* over and over again did not really help. Contextualizing the piece helped. But I was still stuck. Where was my transformation? How was I to access previously unattainable levels of consciousness? How many realities are expressed in *I of IV*? How many realities are there! How many realities do I know how to access? These are fascinating and troubling questions. I felt disoriented and confused, but I also felt challenged to listen differently. Difference tones come from beyond human perception. Was this playing at dark magic? Some kind of new-age mumbo jumbo? Or was Oliveros asking me to tune my perception to a different channel?

Soon these questions went to the heart of a different problem. What did I desire? I wanted the answer to be that *I of IV* was a validation of quantum improvisation, a kind of proof itself, of an expanded universe.

I wanted my listening to be evidence for this work.

But “I” became evidence of something different. “I” became a series of questions that braided into a one thick rope of question: yes, Stan Chung, you are struggling with many questions, yes, you want to force yourself into some kind of quantum recognition, so what, then, is the nature of your own desires, particularly your understanding and desire for epiphany?

At first, I could not hear this question. Upon reflection, I have come to understand my own desire for epiphany to be akin to the stereotypical eureka moment of discovery that is part of the myth of the creative genius (Sawyer, 2012). When I discovered this in myself, my own passionate desire to be altered, I had to let it go; more importantly, this letting go seemed to fuse into a discovery itself.

How do I let go of my desire for epiphany?

I of IV distracts me from myself and exposes my desires. By being exposed, my desires seem to lose their powers as desires. Is *I of IV* hinting at the true nature of quantum improvisation and my own desire to unlock for others and myself some deep dark shining epiphany? How surprisingly religious of me! How enraptured am I by my own transcendence! How biased am I! How biased in trying to confirm my own desires! I wondered and laughed out loud--what kind of explorer am I? Then I could hear the quiet answer: perhaps someone who can hear his own longings? Someone who might glimpse a universe where desire is something different than what he believed?

Can you hear your own longings? Whose longings are they?

Could *I of IV* be the sound of human and nonhuman desire? The universal sound of hope? If it

is, then what do I hear? I hear my disidentification with myself. I hear my disidentification with my culture, my identity, my past and my future. I hear my belonging to something else. I hear a universe so big and small that I cannot register myself, but I also hear, in that exact same moment, a universe that is co-located within me, within the vibrations of longings within all things. It is perhaps another universe I hear, beyond human-made time and human-made space. That is what I hear in this oddly constructed, science-fiction like buzzing and vibrating piece of sound created through improvisation in July of 1966 called *I of IV* in Toronto.

I hear the wave particles of desire, like electricity, reverberating across time and space. I hear and will hear this same sound in *Triple Point* with FILTER. I hear this same sound in the silence of factories in Winnipeg that have been closed for decades. I hear this same sound in my confusion about you and me, about who I am, who you are, and what we and all the machines, wires, and cells are becoming.

In this moment, right now, I hear all sounds in the field at all times.

I am reminded of TS Eliot's poem *Burnt Norton*:

Go, go, go, said the bird: human kind
Cannot bear very much reality.
Time past and time future
What might have been and what has been
Point to one end, which is always present.

And once again, Oliveros's words reverberate:

Quantum listening simultaneously creates and changes what is perceived. The perceiver and the perceived co-create through the listening effect. All sounds are included in the field. This creates potential, cultivates, surprises, opens the imagination and approaches and even plunges over the edges of perception into the mystery of the universe predicted by Quantum Field Theory. Quantum listening is the ability to discern all that there is in a single moment--point in space (a transient) or a quanta." (Oliveros, 2010, p.87)

"It keeps you busy," Oliveros says (2010, p.84). I cannot help but smile: this is classic Pauline, understated to the extreme. What emerges for me is the sound not of my humanity but of an emergent posthumanity. *I of IV* is the sound of the nonhuman, the desire of posthumanity, a point in space that I cannot quite imagine, but perhaps hear in *I of IV*. What is the ultimate disidentification, but that of us from humanity itself? To see ourselves in the micro world of neurons and cells just as we might view humanity from space. And what kind of sound might be heard? I like to imagine that it might sound a lot like *I of IV*.

Autoethnographic Conclusions from Winnipeg

I am listening to my recordings with Pauline. I'm listening to me listening to them. In my interview questions, I hear a rather confident confusion. I hear my own misunderstanding. I hear my inability to pause and to listen. I hear myself struggling especially at the beginning. I need to let her loose.

These recordings are all on my iPhone. I have listened to her recordings a great many times. I replayed the recording in the hotel room in Troy, New York. Then I let a little time go by. And listened to the recording again. I listened again as I transcribed them. I just listened to Pauline again.

It would not be accurate to say that I gained something each time. It would be more accurate to say that the more I learned, the more I read, the more I reflected, the more these recordings mean to me. Listening to Pauline is an experience in which the words she uses seem so simple; it seems like you understand what she is saying. You really think you do.

At the time, I really didn't understand the context of her work. That is very important to communicate to the reader.

But then later, you begin to realize that she is saying a lot more. Take what she says about indeterminacy. She chooses her words very carefully. Take what she says about reverberation. Again, she is very specific about she says.

One time, after a performance, she says to the Jonas, "I think we blew our wads there." Jonas didn't understand. She probably smiled to herself and figured out how to say it differently. But

when you do the research you understand this is her lesbian self ever playful with the potency of male language and in a male dominated industry.

Her theory of improvisation is called Deep Listening but as the notion becomes assimilated into the culture, she struggles (and so do her fans) to retain recognition for the phrase.

Improvisation is also one of the movements that have been neatly ignored by the academy and western history. Improvisation is embodied, instinctual, non-text based, and performative.

Western ways of knowing find improvisation a great deal of trouble, much in the same way we find indigenous ways of knowing troubling. Music, improvisation, and Pauline Oliveros have been caught up in the mind-body duality of western thought. She uses her words carefully in order to capture language that can contain meanings that can break down either/or categorical thinking. For Pauline Oliveros, most language fails to capture the essence of what she is trying to do. I suppose that is why she is a musician, a sound composer, an explorer on the hunt for something.

What kind of something?

The experimental musicians from the American tradition that Oliveros belongs to are most interested in how technology and improvisation can work together to uncover the unseen and unheard. It is right there in front of us, a mysterious world, only available through listening.

Yes, we can hear, but do we listen?

When I listen to Pauline Oliveros's recordings of our interviews, I begin to learn to listen. In her, I hear a history and a practice and many generations of artists and audiences striving to be surprised, seeking to be taught by what we can perceive through listening. The use of

technology, the use of algorithms, the use of delay mechanism whether natural or technology-based, these things tell us that listening has the enormous potentiality of teaching us and of helping us experience a new interior landscape.

There was a point in the studio when I felt I was working with them. Where the improvisation shifts from the music, to the group, and how they work together. This is surprising to recognize right now. There is a point where I am listening to the music for their relationship. There is a point where I working with them, and not for myself.

What was I doing?

We were improvising our agency to be us.

There is no script. There is no plan. At night, I think about reciprocity. During the day, I slowly withhold less about what I am hearing. I hear their self-consciousness. I hear them conversing as band mates and then I wonder if they are doing the same thing when they are playing. I hear their vocabularies as musicians. I think I hear their improvisations, but I also hear the social context of their concerns. Pauline wants everyone to get along, and she specifically wants Doug and Jonas not to fight. The German man has a strong personality, but as I get to know him better I realize that some of this is sociocultural, some of it is personality, and some of it is Doug. Then things start to change again. I am beginning to want things for them. Now that I see what they are, then I suddenly become aware of this strong emotion.

I want more for them.

I want them to be recognized for what they are doing. I want the university (RPI) to

acknowledge them. I want the world to acknowledge Deep Listening. I want Pauline to stop being ripped off by her imitators. I want her in history. I want her raised up to where she belongs. I want to inspire them.

In the end, my stature has risen in that I believe they think I have their best intentions at heart. I want what they want. It's not some kind of superstardom that I want for them, but I want recognition for them. What they are doing is interesting. Pauline is a superstar. Doug's software is incredible. It is Jonas that is being tested. His sax playing is powerfully subtle but he knows he's often too melodic. He can't help put in the jazz riffs. There are no jazz riffs in the other two. They don't need to fall back on previous melodies; or at least with their instruments, the vocabulary isn't as obvious as it is with the saxophone.

What turned out to be me studying a unique kind of improvisation is turning out to be an instance of organizational or social improvising where we are not just playing live, but we *being* live. We, including me, are seizing moments to have conversations about what is being heard and what is being done. And they are talking to me individually now about each other, about their own ambitions concerning how each person can fit in.

There is ambition here. It is a collective one and it is an individual one. Doug is perhaps without a job next year. He is post-doctoral fellow. Jonas is now an associate professor at RPI; the beginning phase of his academic work has started nicely; he has many irons in the fire. Pauline, she is the dynamo, her calendar moves forward with event after event. There is no sense of slowing down or quit in her.

And so there is a kind of spontaneity and risk going on in how the relationship evolves between these three. In a way, I am find myself like a marriage counselor, a role that I've taken before, where I'm trying to get the group to see new ways of being with each other.

I don't know if this is right. I don't what this means to my research other than pursuing performance ethnography has shown me how improvisation is a fact of social relationships. These people don't know this; they are musicians and faculty members; I don't know how they see me.

I want to promise to do them no harm. I am not hard on either Doug or Jonas. They are younger than me. My status as a dean begins more and more to occupy our moments. I am the older man. I am an academic. I am a person who knows and understands how authority works in the academy.

It is Pauline's case that is the most interesting. Her relationship with RPI is at the verge of evolving into something. She is in the ninth decade. Her popularity and status is meaningful at RPI. On her 80th birthday, the president of RPI, Shirley Jackson, spoke at her birthday celebration in ways that moved and surprised Pauline. She has a role at RPI, but like all faculty, she is made to always understand they sit on the hierarchy. Deans and Vice president and presidents rule the day here. Faculty members, while celebrated and appreciated, are workers, the talent, so they say. They struggle with the politics of workload; finding courses to teach, juggling research. It is challenging, especially when, like Doug, you teach fairly esoteric things such as experimental music technology. It doesn't make survival any easier.

But they are also very grateful. RPI is a place where *Triple Point* can play. They have national research funding for their work. Many doctoral students want to know what they are doing. But, of course, they are still in the Arts, and this is a world renowned engineering school. The engineers, I'm told, we're not too happy with what Jackson did with the unprecedented gift of money she received from an unnamed donor: she build EMPEC, a place for artists.

Who would do that?

I watch her and I want her to have many good things happen to her. From a researcher's point of view, it appears that I have lost all objectivity—of course, that is the point of performance ethnography—exploring subjectivity, presence, embodiment, and how humans improvise not just music but meaning itself.

They are improvisation meaning.

They are improvising knowledge.

Out of their lives. Out of these notes. Out of the universe. Out of the world of work, finance, security, taxes, and mortgage payments.

This is how they chose to live. Working in this studio recording their improvisations and evolving their relationships with each other and with their sense of themselves as an evolving entity.

I am so privileged. I think. To be a part of how they are forging connections in the work and lives. In fact, there is no difference between work and life. They are working live in the studio; just as every family and organization in the world is sitting in a meeting room or kitchen--right now--working live.

Spontaneity is what helps us find shared meaning in the moment.

The Subject of Money

The financial side of the world can impact us. I don't like talking about money much but I notice what people own. I notice how people dress. I notice the quality of their clothing: their taste in colour. I notice jewelry. I notice the cars in the driveway. I watch what they order at restaurants, and I watch them eat. Sometimes I can hear them.

I don't know how long it takes before I stop noticing and start seeing. It's like, I don't know, when I stop hearing and start listening. There are details we attend to. Little things. Big things. Judgments. Stuff you don't want to ask about.

Like how much money do you make?

What is Pauline's economic situation and does she meet her obligations? Why is the question even important? Why would you care? I don't know, but this the reality from many artists and thinkers. I think it's important to observe this, (for the reader to acknowledge me seeing this).

Here are some observations.

Pauline and Ione own a beautiful four story Victorian house with a big front deck, purple fence, and a lovely side yard. The house sits across from a park. It takes a few minutes to stroll down the hill to Roundout Creek, a tributary of the Hudson. Kingston, New York is a beautiful historical town, and Pauline and Ione live in the most historical, and hence most desirable part of town, especially if you are an artist, and the city attracts artists. The first time I saw Pauline,

she was wearing loose shorts and a tank top. It was very hot and humid, and Kingston had been storming all morning.

I saw that smile of hers and nearly stopping noticing everything: I suppose that is the nature of her presence. It's the kind of presence that makes you remember what is important in the world. You want to be better around her, more authentic, more real. You want to forgo your father's Rolex and tamper down your BMW dreams. Certainly, in her clothes, her home, and in her personal style, she is not about material objects. She makes you want to listen--to what? To what's important, silly, to what's important.

Like that bird on the wire. Like those leaves shimmering. Like your puny heart threatening to jump out.

When you meet Pauline, you cannot help but think about the renunciation of the material world. For example, you go into her kitchen. You see that it's a working kitchen. No granite, no stainless steel, just normal and ordinary. In the sitting room at the front of the house, which is dark, you see a smallish television and velvet love seat. She watches and enjoys television. On her Facebook page, which is overfilled with friends, she says she watches the Good Wife.

I watch that show, too. I admit I still watch that show. And it makes me smile that she watches it, too. Okay, maybe I'm still a little bit smitten as I write this: she is more than a famous person to me; she is more than a celebrity; more than an intellectual giant. She is like a Buddha. I've watched her eat, too.

I've watched her smile at me: watching me watching her eat.

The house isn't big on the inside. It is not luxuriously adorned, filled with the trappings of an upper middle class life appropriately befitting one of our artistic pioneers. No, there is simplicity here, not adornment. There are books in the sitting room between the kitchen at the back and the television parlour room. Lots of them but no book pride on parade. Most people would have their big fancy dining room setting here. There is no furniture other than small tables and low shelves. Most of the books are meditative in nature. This room is a contemplative place. I can feel it. The carpet is something she lies upon. She meditates here. I know this and I can smell the incense in the room.

I am not invited to go upstairs, but Pauline tells me "they are lots of rooms filled with crap," and she laughs. Pauline is a straight talker. There is no adornment here either. She talks straight, like the time she and the band were recording something particularly fine that I was in the room for, and she looked around the room, and I asked, "how was it?"

I think it was Wednesday morning, and it was my third day in the black box studio at EMPAC. They were used to me by then. I would normally not say a thing after a song. But I sure had a lot of questions in my head such as do you guys ever realize what you do when you actually finish recording a song?

Do you?

Now, on this Wednesday morning, I was done with laughing to myself. I shook my head. This band records on the fly. They don't practice. They make sure the cameras and the computers and the amplifiers and speakers are working, and then they go. They fly. They soar. The swoop. They dive. Done. Who knows where they are going? Not me. Not them. Who knows what is going to happen? Not me. Not them. So, I was used to that by now. Sure, I liked that, I dug it big time, but the way they ended a song made me chuckle out loud.

First of all, you would never know when in the hell they would ever end. They would just end. Blip. Suddenly, it's over. Nada. They didn't look at each other to get ready to be finished, like other bands I've seen. They certainly did not cue each other acoustically that there was some kind of ending coming. No, they did not create any signals that I could see or hear. They just ended. Like mysteriously. Like ESP.

Now, after they ended, they, nearly every time, glanced at each other shyly and laughed. Yes, they always did. Yes, laugh. More like chuckle, chuckle. Hehehe. That's it about it. Let me describe it like this, they improvise the hell out of the universe, and it sounds like hell and heaven with volcanos exploding inside the golden eye of a pterodactyl circling over a lightning strike while Socrates is bent over adjusting Buddha's brown sandals. Then it finishes—and—well, your ass pretty near swallows your head.

She drives a late model Corolla. It is beige and ordinary and utterly practical. She isn't the greatest driver in the world either, but who is perfect? Ione drives a Dodge Caravan. They have a double carport.

Pauline and Ione both work very hard. Pauline is not a tenured professor at RPI. She doesn't have what Jonas has just secured--tenure. Don't be angry for her. Don't be thinking that she has been treated unfairly by the University. She is a legend at RPI. Pauline's global community is extensive, more than huge. When Pauline plays, important people show up from the world over. The RPI president, the highest paid American university president at \$2m+ in salary, showed up and is a fan. But I know this world because I work in postsecondary administration: people who don't have tenure make less money: they have less job security. They are the unsung second class citizens of the university system.

But she probably doesn't care, you think.

Oh, but she does. Her 25 page CV is immaculate. She documents everything she does. And she does a lot. She travels everywhere, and like a professional, she is truly out there doing new things, forging new relationships. But she is definitely not rich.

This is a fine and dignified house. The lunch we had on Sunday afternoon was delicious, but people came with salads and things. It wasn't fancy. It was utterly delightful. I met important people, and I met people who are merely neighbours.

It was perhaps the most delightful garden party I have ever attended in my life.

It is important to remember that Pauline is not a spring chicken, as they say: People 80 years and over are simply not working at this pace. I talked with her enough to know something of her energy level. I saw her morning, noon, and night. I received emails from her at 2am and I greeted her at 9am. I watched her laugh and play, and I watched her settle arguments between Jonas and Doug. On Friday, I carried her monitors and speakers, and I could not believe that she doesn't have a team of roadies. It took us two hours to pack the equipment, and I was exhausted. This stuff is heavy. If only I had her energy.

Pauline is committed, but she is not rich. She is an artist, but she is by no means not a struggling artist.

The Deep Listening Institute is her global movement, but it is run on a shoe string. The Institute puts out all the books and recordings and scores. They are organizing their second global conference. Pauline is always somewhere. She moves faster and farther in one year than I have

moved in ten. She is flying, but she is always so very still. She is with me right now.

Still as anyone I have ever met.

Still...but she “still” has to work. She doesn’t have the fat pension. She doesn’t have enough bread not to work. Be thankful for that, I say, because right now she is shoring up her legacy. For all of us who need Deep Listening, we should be grateful that but she is hungry and hungry people are driven. I love them--they put art before bread so that we can all endure.

80 years young and hungry like the wolf. She tells me this in a quiet conversation, but she never fails to punctuate her words with these sentiments: “Hey, the universe provides, something always arrives just when it needs to.”

And then one day, blip, it will be over.

Analysis

The death of the subject refers to the loss of individuality that is a feature of enlightenment thinking and is the basis for democratic thinking in western culture. We believe we are individuals, but we are shaped by our performances. These performances help us to realize how dominant are the constituting forces of gender, race, culture, activity, language, and class. All educational institutions (students, staff, and community) must face the question: in the wake of all that we know, why has education failed to change us? Why is inequity, violence, and embodied suffering such a dominant feature of the planet?

The radical pedagogy of Freire, McLaren, and Giroux, among others, have pointed the way toward a transformed educational sphere, one that is radically democratic. The research ethic of Conquergood, Denzin, and Madison point toward the way of performance studies. But where are we?

Shall we point to new laws that punish sexism, homophobia, and race-based inequity and be content? Shall we examine our classrooms and see such little change that corresponds to a radical pedagogy, an emancipatory methodology, or an ethic of transformation and say we have failed? Shall we take postmodernism and say that the relativity, rootlessness, and left-wing enrichment of Marxism in academic circles is more a problem than a solution?

All this talk of possibility, the beautiful but sad discourse of “not-yetness” change (Bloch, 1986)—are the contentments of first-world living as well as the comforts of tenure and consumerism just too much to overcome?

What do we tell our students about our survival strategies as performance studies struggles for authority and economic currency in market-based universities where neo-liberal politicians dictate budget? What do we tell students who want jobs? What does PS offer them? Does it offer only “theoretical” hope or is the death of the subject an opportunity to undertake a new kind of learning, one that is methodologically and theoretically transformative (Phelan, 1993)?

The philosophical response by performance theorists does not deal effectively with these questions. McKenzie is important because in his book *Perform or Else* (2001) he discusses the claim that globalization and the transnational capitalist market has upon the term performance. Performance, if you examine the literature, has become a construct dominated by the “management” class. The management “market” uses the term “performance” to describe its

own “market effectiveness.” Human resource consultants use the term to evaluate the worker. Deans (and I am one of them) create elaborate systems to evaluate the performance of academic workers quantifying research, service, and creative output. In a world where performance has come to mean “competition,” how do we position a fledgling postdiscipline with its roots in Marxist revolution?

If performance is to become merely another ideology for us to deconstruct, how do we proceed, when we as academic workers are subjected to the same forces of market competition? To state this philosophically once again, if the subject is dead, how are we to be free?

Improvisation as Agency

Park-Fuller’s response to this question uses the term improvisation. Although she does not define the term, I find jazz musician Lee Konitz’s structure of how to teach jazz improvisation a useful construct for identifying agency through the possibility and pedagogy of improvisation. When combined with Butler’s use of the term, I believe we have a useful starting point to addressing some of the more challenging questions surrounding Performance and the fate of Performance Studies.

Konitz’s Structure

1. Step 1: Interpretation
2. Step 2: Embellishment
3. Step 3: Variation
4. Step 4: Improvisation

Judith Butler's Structure

1. Agency located in slippage between other-within and other-without
2. Improvisation is the agency located in the death of subject because of the subject's need of the Other
3. Improvisation is a tactic found in citationality, slippage, satire, carnival, dialogism, and consciousness.

What is implicit in Konitz's structure is that improvisation is the creation of the New. It is teachable. It is a process founded in step 1 which we could call mimesis or representation or even citation. In Butler, we see improvisation as creative agency, despite--and as a result of--the forces of normalization. In music, there are metaphoric forces of normalization as well—the score, recordings, history, how a song “should” be played. But in jazz, we learn how to improvise despite the forces of limitation. We first learn how to interpret a song, using our bodies, our individualities. We then add embellishment, a chord here and there, a frill, a trill, an innovation. Then we perform our own variations, speeding up or slowing down tempo, changing chords, altering melodies. And in the last stage, we create the New. Pure creation is freedom in the sense of agency built from history, allowing for context, even building from the repression of text, society, culture, and power—but in the end, finding--improvising--a new order, a new way.

This kind of change is not revolutionary in the literal Marxist sense. In fact, Denzin's overtly political research where the Other is transformed is extremely difficult when the Other (the external) is twice-oppressed by the ethnographer's gaze (Taylor). Instead, the Butlerian

improvisation moment is one where the revolution appears “quiet” but ultimately finds itself transgressive and democratic and embodied by practice.

Improvising the space between the subject and other is possibly a way of viewing improvisation as a new kind of “presence,” one that is not overtly metaphysical, but one that meets the embodied demands of the discipline itself. Performance, after all, pursues “presence” as the lovers pursue themselves on Keats’s Grecian urn. The paradox of agency in Foucault and Butler is that we need to be determined to determine ourselves. The other-within is ontological postcolonial territory unmapped except by consciousness itself.

Marxism’s enduring place in the academy tells how complex the performative world remains. We do and we become ourselves by doing. The more we improvise, the more we cross borders (Conqergood, 1999), the more the Other becomes a part of our knowing and being. The act of doing, the art of performance, is not methodologically or philosophically obvious. We act, but our acting is sedimented by layers of signification. We need performance studies so that our doing is informed by the possibility of hope, and I locate that hope in the doing of improvisation. Foucault links power and knowledge, but in the third stage of his work (technology of self), he describes a political ethic that develops a view of the subject paradoxically informed by subjectification. For both Butler and Foucault, subjectification itself creates oppression and its antidote--agency.

Our greatest of hope comes what from what European performance studies theorists call the re-enchantment of the world. The positioning of the dramaturgically and jazz-derived metaphor where improvisation (in all performances) comes to the fore as potent vehicles of agency represents, in many ways, the future of performance studies.

Complexity and Social Improvisation

NON-LINEAR SYSTEMS

Characteristics

- Employs a system perspective to explain interconnected parts.
- Assumes non-linearity because whole is larger than sum of the parts.
- Considers emergence of order as a self-organizing property.
- Influenced by connectivism, quantum physics, neuroscience, and genetics.

Questions

- Does improvising with machine augmentation produce valid theorizing on creativity?
- Might improvisation suggest a non-linear system model of creativity?
- Does quantum improvisation validate a network theory of non-linear creativity?

Figure 18 -- Non-Linear Systems

A complexity science-based model for social innovation in social enterprises is presented in this section. The three components of the model include: (1) representing the evolution of social innovation using nonlinear dynamical systems with accompanying parameters and attractors; (2) a cusp catastrophe model of bifurcation or the emergence of a new attractor; (3) the role of emergence in complex systems using recombinatory operations.

The model represents the emergence of social innovation as an evolving dynamical system governed by the interaction of two parameters. The first parameter is “opportunity tension” or the degree of coordination and organization at a collective level required to resolve social problems or take advantage of social opportunities. The second is informational differences

having to do with the accessibility of information via social networks connecting key players in the social system under consideration. The informational differences parameter also refers to experiments in social novelty acting as seeds of emergent social innovations. Since social innovation is understood as the emergence of a new attractor reflecting the social innovations, the new attractor is shown to replace an ordinary attractor representing inadequate “business as usual” practices and social networks that have not been able to resolve the social problem or take advantage of the opportunity. At a critical threshold, the social system undergoes bifurcation as extant social components are recombined leading to the generation of novel social forms that can more sufficiently resolve the social problem or take advantage of the given opportunity.

Six Kinds of Emergence.

1. Phase transition. Quantum protectorates;
2. Self-organizing physical systems;
3. Mathematical emergence in dynamical systems;
4. Computational emergence;
5. Social emergence;
6. Biological emergence.

When we study *Triple Point* and FILTER we will see that non-linear systems theory, emergence, and complexity theory have something to say that appears to be relevant to experimental sonic improvisation but some things are clearly missing.

First of all, the concept of self-organization requires problematization. The four musicians have no leader and the music is created without a text or score; that in itself appears to look like self-

organization. However, each musician employs a great deal of control, and so it is difficult to ascertain in social systems the degree to which self-organization may be occurring. However, in the context of social systems there are two concepts worth considering. The first is the degree to which the system is coordinated. Once again, there is a high degree of coordination in *Triple Point* that seems to involve alternating layers of listening and responding. The second concept is the nature of the connection between players in the system; in other words the way in which the information is passed in the system. Once again, this brings us back to Deep Listening as a concept where listening occurs simultaneously as “point listening” and “broad listening.”

If this is indeed what the musicians are attempting to do, then we can see how potentially complex the task might be as there are four sources of music with each musician listening and responding. To complicate matters each musician tends to echo or reference the other with FILTER listening and selecting from each musician and creating multiple layers. What is interesting is that the communication network is clearly open but since we are talking about human listening and responding it is difficult to assess how and what is occurring.

Rather than focus on self-organization, there is a more appropriate concept to employ. The concept, as Jeffrey Cohen puts it, is not self-organization but self-transcendence.

Toward Quantum Improvisation

Self-transcending improvisation is perhaps a productive way to categorize *Triple Point* and FILTER. The concept, even though it comes from the mathematical world of nonlinear dynamic systems theory, can help us in three ways. Self-transcendence may be a useful way to describe a particular form of emergence. Self-transcendence also gives us a way to name the system in

which the improvisation occurs: the Self. By describing it this way we are going to back to the sociocultural referent discussed earlier that encompasses the ethical dimension that Oliveros delineates in her Deep Listening contributions. We have seen in our examination of Oliveros that quantum improvisation is characterized by its ability to transform ethical boundaries. Therefore, self-transcendence may be an appropriate way to describe the kind of breakthrough that *Triple Point* is seeking in their sonic experiments with FILTER and improvisation.

Let's begin by examining "emergence" as a term. What are the parameters or types of emergence? Radically novel emergence is described by Goldstein as a characteristic of emergence. Is *Triple Point* radically novel? Or are there degrees of emergence much like there may degrees of epiphany or self-transcendence at the threshold? A better question, one that hints at the crux of improvisational theory, is whether improvisation remains a process that is capable delivering radical emergence vs non radical emergence?

What is radical?

Before we can address the question, "radically novel emergence" requires some definition. As in our discussion of creativity, it appears that "radically novel" is a way to describe an outcome. Outcome based predictions of creativity tend to generate questions as to the arbiter of the judgment. Indeed, there is some judgment outside the system required to define the resultant novel emergence as radical. Is not the "radical" a subjective judgment that depends upon external referents? How can this happen? Should not the "radicality" of a resultant emergent process not be outcome-driven; otherwise, we are following the old mistake of dividing novel outcomes into winners and losers, just as we might divide "successful" painters into those that sell a great deal and those that do not. Is outcome really the best way to judge the radical novelty of an emergent process?

Another perhaps more productive question might be whether there is any other way to evaluate artistic product. Using self-transcendence as a key concept, we might say that what is probably required is a process that is necessarily subjective and also dialogical; that those engaged in transcendence need to have some say in defining the nature of the emergence. Here, we begin to reach toward the question of authenticity that many engaged in artistic processes describe as a dialogical process requiring a relationship between players and audience.

So what is *Triple Point* approaching in their improvisations? Self-organizing is not how best to describe this emergent transcendence of *Triple Point*. A better phrase may be “self-transcending constructions.” The word construction is much more deliberate and seems to better describe Oliveros’s view that her experiments are constructed rather than reliant upon chaos or chance.

However, construction is perhaps not the right term. In Oliveros’s work, we are not talking about the explicit construction of epiphany or the construction of new knowledge for that matter. It is a bit more nuanced and less prescriptive than that. The problem with the word construction is that it driven by self: it appears far more deliberate than the self-organizing non-linearity which is closer to the spirit of Oliveros’s view. Self-constructing is perhaps too strong as well because it describes an agent that is controlling. This is not the sense of how improvisation works in *Triple Point*, and it’s not Oliveros’s sense. Oliveros says repeatedly about the improvisation, “I don’t know what is going to happen and I don’t want to know.” But she also insists that her music is not indeterminate, aleatoric, or based on chance. These are subtle distinctions that perhaps point to another way of describing the process.

Educational Connectivism

Perhaps the best way to describe the nature of improvisation is not as an organizing system but as a “connecting system.” Connection-making is more akin to the networked state of communications within the system, and it better describes that relational nature of how emergence happens or how knowledge, especially how radically novel knowledge, might be produced.

Connectivism, as some readers might know, is also a relatively new theory in education, one that has replaced, in some quarters, constructivism which has been a dominant theory. Constructivism is described as a theory of learning where it is suggested that learning happens when the learner constructs knowledge. On the contrary, connectivism is a theory of learning that suggests that learners don’t so much construct new knowledge, but make new connections. The natural reference to neural pathways is both deliberate and literal. In neuroscience, this is indeed one of the strongest theories of how the brain works in creating the new and novel. New knowledge is not best described as the creation of new neurons but the creation of new pathways and the strengthening of those pathways into more diverse connection. Knowledge, then, is a product of not more or enhanced individual neurons but the enhanced network of connections between them.

Moreover, nonlinear systems theory is also based upon a “network of connections.” This network is non-linear and dynamical because non-linear best describes the unpredictable and spontaneous quality of these connections, but more importantly, non-linear dynamical systems describe “emergence” as arising in ways that are not predicted by the linear arrangement of the systems parts. Previously, we postulated that we can best describe this kind of emergence as self-transcendence. So let’s go back to one of our original questions: how does self-transcendence occur in *Triple Point*?

CONCLUSION

MOVEMENT III - RECOGNITIONS

A Theory of Improvisation

This chapter summarizes this dissertation. The following three tables organizes and categorizes the fields of improvisation. These tables are different from the tables given earlier. The first tables at the beginning of this paper were propositions that gathered the many fields where improvisation is an important term: initially, the tables proposed different ways of organizing the fields of improvisation. The following final tables are conclusions. They build upon the discoveries of the three movements of this work and present an original theory of improvisation that builds upon a sociocultural theory of creativity (Sawyer 2006), my own theory of sociocultural referents (Pressing 1996), and Oliveros's quantum improvisation and Deep Listening (Oliveros 2012).

I propose that improvisation is the performance of agency.

I propose that there are three types of improvisation: personal combinatory, social evolutionary, and ethical transcendent (quantum).

The jazz form of improvisation is something I would like to call Type 1 improvisation. Stage 1 allows misappropriations, misreadings, and misleading. We notice this kind of activity nearly everywhere and in nearly every field because language requires metaphor to make its discoveries and science and other areas of discovery are constantly providing new sources. For examples, scholars of the discipline known as English are notorious for borrowing ideas from social science and then creating novel ways of examining phenomena. For example, one can

trace literary postmodernism to linguistic theory. One can link performance studies, the discipline I have studied, to performative language, a concept initiated by a linguist, J.L. Austin who coined the term *performative* in a lecture in 1955.

Misreadings, misleading, and mistakes—these are a part of Type 1 Improvisations. There is an attempt in Type 1 to represent spontaneity but in a rigorous form that suggests expertise and skill. There is also a fairly rigid adherence to the referents of improvisation, whether they be social, cultural, or aesthetic. But no matter what the referent, Type 1 improvisation does *not* transcend its structure. Instead they represent attempts at liberation from social control. This is why jazz improvisation is the best example of Type 1 Improvisation. Jazz improvisation, whether it is musical or conceptual, is concerned with utilizing a pre-existing score, melody, text, or metaphor. At Type 1, there is no switching going on of referents. If there are transformations, and there are, they have to do what we can call “phase” transformations. The self is not transcended, but the phase changes. Yes, I admit this is another usage of a science metaphor, and yes, I realize that it corresponds nicely to *Triple Point*’s name which references a point where all three phases of water appear at once.

Phase change is change, but it does not substantially change the substance of the form or structure. It is a *less* radical form of the transformative. Whether it is ice, steam, or rain—it is still water. Phase change is the dominant metaphor of social, theatrical, and musical improvisation; however, it has also been reduced to a stereotype that problematizes improvisation and confuses many. Jazz requires high levels of expertise; it is heavily structured; emergence is of a low level and seems, in some cases, ethically inconsequential; despite the fact that jazz has changed the social context or the status of African music and African American performers, jazz improvisation has created mythology of improvisation that implies that improvisation requires individual “solo” expertise and is not collectively transformational beyond phase changes. We can learn a great deal from jazz improvisation as a metaphor for other activities, but, in the end, it corresponds rather neatly with other clichés and myths about

the nature of creativity—which are that the experts in the field are unique, individual, highly skilled, and engaged in essentially solitary practices; this corresponds with the solitary genius myth of the creative artist.

Stage 2 Improvisation

The next improvisational phase, stage 2, goes beyond phase change. It is combinant transformation. It is the Sesame Street variety where you combine things that don't necessarily belong to achieve novel products. We see this kind of improvisation all the time. We call it "using what there is to improvise a solution." This form of improvisation involves the melding, mixing, or to use a scientific metaphor from chemistry, the compounding of substances, or in geology, it happens when two rocks combine to make another rock but the resultant product is only a compound, not an entirely new chemical combination. We see this type of emergence in performance art a great deal of the time and not in the most obvious ways. Performance art uses phase 2 improvisation to redefine the relationship between say the effort put into an art object and the consciousness within the art viewer to create the conceptualization. Performance art is often concerned with reconceptualization but not necessarily more. It is not that this kind of improvisation or creativity is not valued or needed; it is just that this is the way that improvisation works in this dimension. New combinations evoke new ways of seeing but there is no transformation of the objects--other than potentially in the perception of the viewer.

Stage 2 improvisations fit agreeably into the ideological structures of capitalization. There is less liberation of social control and more coherence and consistency with socially acceptable epiphanies. There is usually a resultant product that can be sold as an experience or recording of an experience. While ephemeral in nature, the recorded experience does not allow a re-

awakening of faculties, and is more readily consumed as a product, an innovation, a measurable result, often producing the kind of social innovation that happens in organizations where meetings between people occur. People interact, exchange ideas, and often combine their ideas into innovations which disrupt older ideas and models and seemingly “advance” them. Recombinations of ideas to make new ideas often look like a never-ending recycling process from the point of view of history: what’s old is new again and so on. Stage 2 improvisations play a critical role in the advancement of technology where incremental improvements to processing speed enables often unintended discoveries and improvements in predictable and unpredictable fields. For example, Pauline Oliveros uses Deep Listening to create tools to enable disabled people to compose music on the fly. A recent text includes a number of voices from a variety of fields that demonstrate how Deep Listening is combined with other ideas to create new approaches.

Stage 3 Improvisation

Stage 3 is the emergent, transformational phase; here, I refer to a quantum, radical transformation that makes one thing into another. Not two things into one in the form of a new compound, but one thing becoming something else. This transformation, we could call “radical,” is not a phase change, nor is it incremental change. Nor do we stay within the same chemical make-up, so to speak, of the referent score. It is not recombinant innovation. It is not merely a change in how we see things. It is not a shift in perspective, or a way of looking at things differently; it is, in Oliveros’s world, self-transcendent, and this is the most important aspect of stage 3. I don’t mean that it is predictably self-transcendent, but that it seeks self-transcendence.

Quantum Improvisation

Self-transcending emergence describes the essential property of stage three. Perhaps the first question is, what is self? Moreover, what does transcendence mean?

It is tempting, in imagining a construct concerning a complex network, to perceive the network as two dimensional and to visualize the network much like an electrical diagram or a visual representation of interconnected neurons. One might see fractals; others might see the crystalized image of a snowflake with its complicated geometry and connections. There are, of course, limitations to visual representations as there are limitations to any two dimensional projection. First dimension is place. The second is time. Thus, Type 3 produces a third dimension: ethical.

This ethical dimension is connected to the social and individual transformation produced in experimental theatre, particularly the sort of improvisational theatre that attempts to create social, political, and individual consciousness of the Other.

The ethic in this type of theatre is social, political, and cultural and so is the third dimension of our imagined complex network.

As befitting a turn away from the visual, Oliveros calls this third dimension, listening.

And she calls the movement where listening becomes the key to an ethic of social, political, and cultural transformation—*sonic consciousness*.

Deep listening is the metaphor and the strategy Oliveros employs to describe this ethic of transformation which is intimately connected to stage three, the transcendence of self.

Why is Deep Listening an ethic? Or more specifically, why do I call this third dimension an ethic? An ethic refers to spaces which are deeply connected to the purpose of communication, the nature of relationality, and to the potential of new forms of conduct.

Ethic is, like improvisation, the performance of a kind of moral agency that concerns how we treat each other.

How one acts, reacts, senses, and thinks. This third dimension is described by Oliveros using the metaphor of sonic depth. Depth gives listening a dimensionality that goes beyond the simple give and take, send and receive, of networked communication.

Depth is a metaphor that calls forth a spirituality. When we examine the ethic of Deep Listening we discover something fairly surprising: the ethic of the transcendence of self.

In Oliveros, self refers to the sound of the self, what the body hears when it hears itself. And for Oliveros, the idea is that there is so much to hear that is beyond self-expression. There is more to hear than the typical sonic formulations of typical sounds. These typical sounds include the superficial perceptions of the soundscape which include both human-made, natural, and other sounds. For Oliveros, Deep Listening means hearing more than what is typically available.

What is this 'more'? It is that which is available in third dimension when the self is transcended. The self, in Oliveros's view, is defined by the limits of one's capacity to listen. This means more than the physical ability to listen, but the ability to listen in ways that transcend the limitations

of personhood. Personhood, for Oliveros, is a concept that can be transcended by listening, where we might go beyond ourselves, our egos, perhaps beyond our individual differences.

There are other concepts that Deep Listening also questions or problematizes. These concepts go beyond the mere ego or sense of an individualized self, but to the concept of linear time and singularity of space, the first two dimensions. Oliveros's work questions the notion of the human. It interrogates the relationship between humans and non-humans. It asks questions about the limits of consciousness that call into question the seen and the felt world. Deep listening is an ethic that is beyond how humans treat themselves, but an ethic that is posthuman, one that seeks to interrogate the sonic familiar.

To summarize, non-linear dynamic systems produce a third stage of emergence in human/social systems that we might term as the transcendence of self. The ethics of this third stage is an important dimension that offers resonant meaning. Here emergence is characterized by its connection to agency. What does it mean to be of the self? What does it sound like? How does it make us free?

The ethics of this transcendence of self is available in Oliveros's life-long dedication to improvisation. The crucial notion is her concept of sonic consciousness to suggest an ethic based upon enhanced consciousness as the conscious basis of action. This consciousness begins with the development of perceptual skill in listening, listening that is consciously honed and practiced. Perception is ethically foundational in Oliveros's view because it is the basis for a phenomenological, felt knowledge of ourselves and the world. What Oliveros suggests in all her music and activities is that we need to perceive more and deeply, because there is much more.

Perhaps, she suggests, if we do perceive more, we will find ourselves facing a moment of transformational consciousness, one that begins with the transcendence of ourselves.

What is this self?

In its most basic form, it is an empathic entity which itself is grounded solely in relational perception and self-definition. It does not begin with I. It begins with the You, the Other. There is in Oliveros's legacy an important reference to the Other, whether the Other might be represented in gender, sexual preference, in cultural context.

For Oliveros, the Other is the undiscovered (unheard) phenomenological present, represented and embodied by the sound that we have not yet heard. This present is to be found in Deep Listening. This Other leads us to consider the ethic of improvisatory theory from the perception of philosophers who have engaged in postcolonial thinking (which is the disciplinary space in which the construction of the Other is most often considered). The Other, whether conceived of as within or without, is what is encountered in Deep Listening. What is "not self" allows the "self" to finally hear. When the self can finally listen to itself, it encounters a consciousness that transcends normalized psychological and/or (pick one) sociocultural constructions of identity.

In Oliveros's journey there is tremendous artistic and personal agency possible in this third stage of transcendence. In a sense, the result of Deep Listening is the retransfiguration of the space between self and other. It is essentially a polyphonic, pluralistic, and self-organizing network of relationship. It is important to state that this sonic, non-territorial space is far from being occupied by humans only. As we shall hear in the ethnographic descriptions that follow, the soundscapes that are created by Oliveros and company include all that is available to be perceived and heard--which means a complex and multi-layered soundscape that might be described as posthuman.

Autoethnographic Personal Transformations

How have I changed?

I went there to study them, to study Oliveros, to see where it would take me. I didn't know where I would go, and I didn't know where I would find myself. Where am I now? This work documents where I've been and where I want to go, but there is so much that can't be said about what happened in New York. As we said in our last studio meeting, it really depends on how much bandwidth one has, to be able to perceive and to contribute, to be able to feel and to respond, to be able to sense and reflect.

As for this concept of bandwidth, the pipeline of our sensory and our reflective powers, the measure of the open gauge of our hearts--I don't know if I can communicate what the experience has done to me. I don't know if I can tell you what it feels like, no matter how deeply I describe, no matter how many fragments I position, no matter how many citations, no matter how much I want to tell you how I have changed.

I don't know yet, in other words, really that much about the dynamics of change. I have learned a great deal, to be sure.

I know something about the role of improvisation and how productive it might be to recognize creativity as a non-linear dynamic system. I do know something about the emergence of the new, how connected it is to a model of connection-making, how collaborative it might be, how it expands our notions of individuality and self. I have learned many things about the role of sonic consciousness as one of the most profound vehicles to understanding how creativity evolves in a system and how improvisation can help us open new theoretical and experiential spaces to explore how we explore, from novel ways of thinking about thinking to enhanced

forms of consciousness that include a potential co-evolution with machines.

I have thought about these things. I have witnessed them. I have felt them in the room. And I have felt them time and time again as I maneuver in my own changing world. I have strived to be more open to Deep Listening, to find ways to hear more diverse voices, to find ways, in Oliveros's words, to be more ready. And I have to say, as I sit here looking at this monitor, listening to tires on wet pavement on a flat cold day in December on Wellington Crescent, that I am profoundly humbled to be a witness and a co-performer of sorts in this ethnographic exploration of improvisation. I am humbled because I felt that I become a part of some kind of emergence. I don't know what will happen next, I don't know if anything will happen, but I know that I feel transformed by the experience of being there and of writing this.

When ethnographers talk about witnesses, they also talk about the ceremony of reciprocity. As I have mentioned, I found the ethic of reciprocity enormously humbling, but more importantly, I have learned something about myself as a human being in trying to give something back to these musicians. These words are part of my small gift, but I think less about these words and more about the essence of listening as it was performed at the time and that is being performed when I re-listen: I was there to listen, to listen as deeply as I could, with all of my being, even though parts of me resisted, the administrator part specifically, a role that I have questioned and in some senses denied as a valuable part my identity. These various parts of me listened to the ceremony of reciprocity, too, and I heard myself in ways that I've not heard before, that I did not respect in myself.

Today, I think of myself and my work role differently; I respect parts of myself more. I acknowledge that the work life which I have often ignored has provided me with a valuable perspective. When I came to study improvisation, I did not realize that I would not just be studying musical improvisation, but also social improvisation. I did not realize that as a social

actor that I could play a role in reaching a kind of social emergence with them that was unexpected and remains a surprising version of reciprocity.

They said thank you to me, and I cannot underestimate the way those words were uttered and heard.

In a sense improvisation has been misunderstood as something occurring within the individual as an output. It has been understood more psychologically than sociologically. It has been comprehended as an expertise. While it can be seen that way, the skill of improvisation is a much different kind of expertise than a technical one related to musical composition or other abilities. This is the myth of jazz. As much as I love and appreciate jazz, jazz improvisation fits beautifully into the myth of the creative genius. In *Triple Point* there is a significant expansion of what we mean by improvisation. Expertise is not the right term, even though it is *a way*, a perspective of human performance. The model that Oliveros and *Triple Point* provide is available in two versions: first, and most obviously, it is available in their music. Second, it is available in their social interactions.

Social improvisation as seen through the lens of complexity theory and emergence is another way of understanding how creativity arises in the most common of situations, the everyday conversation. Not only does meaning and shared understanding emerge, but so does the concept of a social bandwidth, a deepening and broadening of perspective, not necessarily a shared perspective, but a more complex one, a more diverse one, something much more akin to the properties of diverse, multi-agent environment, exactly the kind of system where beautiful and surprising things arise. In these situations, people, who are the agents, can easily find ways to reach an awareness that is much larger than the simple addition of the perspectives in the room. This kind of improvised and emergent collaboration both defies and confirms expertise: you can be a great listener and improviser, but in many ways social

improvisation needs no more expertise than a humble willingness to share and to listen.

I respect the ability to suppress the instinct to drive preconceived outcomes when in a group situation. Whether it is in a family, work, or classroom, the power of social improvisation as an emergent phenomenon of a complex system may help us see human creativity differently. I sometimes wonder if I can hold onto this new knowledge. I sometimes doubt my capacity to learn, especially when the learning is so profound. I feel this way because of my own self-doubt, my own inertia, and my inescapable desire to do what is easier and most familiar. On the other hand, Oliveros teaches us that sonic consciousness is always available. Listening may be one of the best ways to bring ourselves to a readiness to accept different versions of who we think we are and what we think we can do.

For me, sound is a gateway to some kind of transformation of the self. I listen to this traffic outside. I try even to listen to the trees that I glimpse, their dark cold limbs spreading across the sky. I wonder if I can hear the moisture taken from deep warmth in the ground to slowly fill the limbs for a greening in a few months. I wonder if in my heart and in my mind there is a way to hear myself growing, like warmth spreading outwards from the heart to the fingers on this keyboard and to the toes in my slippers. I wonder if I can hear, not just myself, not just the sounds of this city, the vibrations of this building, the hum of the ventilation system, the wetness of the streets, but you somewhere, anywhere, listening.

Going Home Again

My last days in Troy are a strange reminder of the world we live in. I have to swap hotels because I wasn't able to book the complete stay at the Hilton in Troy. I find another Hilton

closer to airport, but getting there is an interesting puzzle. It is cheaper to rent a car, so the last night, I find myself in a room overlooking some trees only a kilometer from the airport. I must wake up early to catch my series of flights.

Saturday night, I enjoy dinner at Musa with the crew. After dinner, I leave quickly and head for the hotel. It is dark now. I follow a line of cars past the university. Turn left onto Hoosick, follow the expressway traffic.

I am tired. I think I understand a little bit about improvisation now. I am able to glimpse its role in a perspective on creativity that includes the emergence of the new from the point of view of non-linear systems theory. I have written a lot. I have used autoethnography in a way that has helped me analyze my experience and develop a deeper understanding of what I observed.

Observer engagement has helped me uncover social engagement as an improvised process that not only has significance in this situation but adds to the equation concerning how systems produce social transformations. Transformation is itself a kind of art and science it seems to me. Improvisation plays a role in how transformation is attempted and achieved.

Transformation occurs on a continuum; it can mean many different things from the small to the large, from the small delightful surprises of the jazz musician first learning to solo, to the kind of transformation that we see in many self-organized systems that allows the system to transcend self and escape even its own boundaries.

I have also reflected greatly on the method and ethics of this inquiry. Using the work of Dwight Conquergood, Norman Denzin, Soyini Madison, Shawn Wilson, and others I have attempted to develop a framework that combines many forms. Performance autoethnography is a kind of improvisation itself, where you hope that the fragments will amount to something larger than the whole. My expectations about where this journey would lead me had three distinct phases.

The first phase was the creative reflection phase that occurred in months before the second phase, data collection and observation. The third phase, the writing and analysis phase surprised me the most. I learned a great deal in the writing. I discovered through writing ways of knowing that did not appear until long after I left Troy New York.

One of the advantages of qualitative research isn't just the amalgamation of many different ways of knowing, but the ways it engages the researcher's imagination. I hear many voices in this work. I hear the voices of myself and my subject. I hear the wondrous voice of FILTER. I hear the voices of myself at different phases of my life with uniquely different views of improvisation. At some points I heard the voices of my ancestors, especially as I sought to reflect upon an indigenous view of this scholarship, a perspective I feel has informed many of the insights.

Oliveros's work is deceptively large and all-encompassing. This is just a vibration. She will be the subject of much research activity I believe, not just by musicologists who will evaluate her stature as an influential experimental composer, but as an activist, humanitarian, philosopher, and theoretician and practitioner of an emergent quantum improvisation.

I certainly cannot do justice to Pauline Oliveros. Nor am I able to do justice to the full breadth of *Triple Point's* musical achievement. The work of Doug van Nort and Jonas Braasch is infinitely larger in significance and scope than this study could convey. Both scholars and artists continue to practice a kind of improvisation that speaks to the nature of how creativity emerges. There are many ways in which a study like this is the product of relationship. Relationship is a concept in indigenous knowledge that is full and deep and rich. Relationality is a counterpoint to individualized perspectives that have led to limited modes of thinking, such as the notion that Oliveros's work is some kind of expressive personal achievement. Oliveros's work is not about personal expression; it is not, in my view, biographical work. It is as far away from the lyrical

expression of the sensitive artist who sees his or her experience through the filter of everyday reality as seen through the narrative one of person.

Instead, what we see in her work and in the work of *Triple Point* is a cosmology of alternative philosophy, a philosophy that combines an eastern approach with a phenomenology of Deep Listening. The philosophy does not separate self from its practice, nor humanity from the universe. When sonic consciousness is augmented by machine intelligence there comes the possibility of discovery through quantum improvisation: the kind of discovery that is ethical and co-emergent, a beautiful sound.

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