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UNIVERSITY OF CALIFORNIA, SAN DIEGO

Improvising Technology:
Configuring Identities and Interfaces in Contemporary Electro-Acoustic Music

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Music

by

Jeffrey Glenn Kaiser

Committee in charge:

Professor David Borgo, Chair
Professor Sarah Shun-lien Bynum
Professor Anthony Davis
Professor Mark Dresser
Professor Kevin Fellezs

2013

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The Dissertation of Jeffrey Glenn Kaiser is approved, and it is acceptable
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Chair

University of California, San Diego

2013

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Acknowledgements

I wish to express my profound gratitude to my committee: Professors David Borgo, Mark Dresser, Anthony Davis, Sarah Shun-lien Bynum and Kevin Fellezs. Their enthusiasm, experience, knowledge and patience in providing me guidance and encouragement is deeply appreciated.

I would like to express special appreciation to the Chair of my committee, Professor David Borgo. Without his support, motivation and persistence this dissertation would not have been possible.

Special thanks also to Professor Nancy Guy for her insight, thought-provoking seminars, friendship and encouragement.

Phil Skaller and Ben Power, two members of my cohort, provided invaluable help with my work, editing and providing meticulous comments. Most importantly: they were great friends to me through the whole process. My heartfelt thanks, I am deeply indebted to both of you.

I also wish to acknowledge friends and family that were constant companions, encouraging me through the process. If they weren't present in person, they were on the phone: Kathy Linman, John Kaiser, Kelly Nielsen, Louis Lopez, Leah Bowden, Maxwell Gualtieri, Ted Killian, Jim Connolly, Tom McNalley, Brad Henkel, Dottie Grossman and my parents, Charles and Elizabeth Kaiser.

Finally, without the people that graciously allowed me to interview them, this work would not exist. Thank you so much for trusting me with your time and with your words about music and art.

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Abstract of the Dissertation

Improvising Technology:
Configuring Identities and Interfaces in Contemporary Electro-Acoustic Music

by

Jeffrey Glenn Kaiser

Doctor of Philosophy in Music

University of California, San Diego, 2013

Professor David Borgo, Chair

This dissertation is an ethnographic examination of contemporary musicians who improvise with new, repurposed and reinvented electronic technologies, along with a critical examination of how these musicians conceptualize their practice and relationship with music technology. This work is based on approximately twenty interviews with notable improvising artists and technologists, including guitarist Nels Cline, turntable performer Maria Chavez, trumpeter and composer Wadada Leo Smith

and Robert Henke, one of the original authors of the immensely popular software package Ableton Live, among others.

In my research I examine changing notions of agency, instruments and virtuosity in electro-acoustic improvised music, and how the interviewees construct what is valuable and desirable in this emergent practice. In addition to documenting how these creative individuals configure newer technologies for their own purposes, the dissertation highlights how technologies can also configure musicians and musical communities by affording specific ways of creating aesthetic and social value. Musical cultures and communities across time and place are frequently differentiated by geography, by the instruments used, by notions of style or repertoire, and by musical function and venues, among other things. The interviewees blur and decenter many of these identifying characteristics. In conclusion, I argue that practitioners of electro-acoustic improvised music form a particular type of epistemic community in which the production, conception, and use of knowledge of musical technology are its primary defining characteristic over other musical specifics.

Chapter 1: Introduction

In the 1980s, revolutionary change was taking place in the world of music: audio in digital format first became commercially available as compact discs (CDs) in 1982 and the public release of MIDI (Musical Instrument Digital Interface) protocol in 1983 provided new technological means of making music to artists. Up to that time, as a young student, I had been working with analog tape as an experimental medium (following in the tradition of *musique concrète*) and using hardware-based audio signal processing and synthesizers. Digital audio and MIDI were truly revolutionary: difficult editing tasks—such as using razor blades to cut and splice together small pieces of magnetic audio tape to make sound collages and compositions—could now

be accomplished relatively quickly on the screen of digital samplers. These samplers, sharing the MIDI protocol, could then communicate with sequencers, computers and keyboards. The electro-acoustic affordances and possibilities these new technologies provided were amazing at the time. Now looking back, comparatively, at what we are able to accomplish with music and computers today, it seems delightfully archaic.

At the same time that I was delving deeply into the electro-acoustic music world I was introduced to a guitarist named Nels Cline. Cline would later go on to gain fame as a member of the rock band *Wilco*, also performing with artists ranging from Oliver Lake and Vinny Golia to *Sonic Youth*, Yoko Ono and Lady Gaga. At that time, Cline was developing what would become his trademark sound: a whirlwind of improvised electric guitar featuring many hardware-based signal processors (frequently called *stomp boxes* in the guitar world) cabled together.

As he slammed buttons with his hands, stomped on pedals and spun dials—all while playing the guitar—the signal processors would take his sounds and distort them, reverse them, loop and layer them repeatedly into mesmerizing textures that were difficult to believe were coming from a single instrument. Cline's music, and my desire to emulate (with the trumpet) the sounds and textures Cline produced with his guitar, became one of the influences that led me on the path to exploring the use of electronics in improvisation.

I modeled Cline and others in my own work by adding hardware-based signal processing to my live trumpet performances: ring modulators, delays, bit-crunchers, pitch-transposers, harmonizers and more. I would also use computers to process sound

files (samples) that would be played back while I performed. The process of creating those samples was a time consuming studio-based practice that would involve setting up the computer to process a sample that might be only a few seconds long. While the computer was working I would leave for lunch, and upon my return a few hours later the computer would still be processing the same sound. Needless to say, the duration of that audio process was not conducive to live performance.

Another revolution hit in the 1990s as personal computers became more powerful, with the ability to perform audio signal processing tasks and manipulations in real-time through software such as STEIM's LiSa and and the MSP module for Cycling 74's Max software. However, it still required a relatively large and expensive computer, so I personally didn't move to such methods of live processing until 2005, when more affordable laptops became a feasible hardware replacement option for portable, live computer manipulation of audio.

I feel fortunate to have worked on both sides of these two revolutions: pre-MIDI and MIDI, and hardware and software based live signal processing. The very personal experience of traversing these transitions while working in electro-acoustic improvised music has allowed me to watch the coevolution of music and technology and to negotiate—and watch other musicians negotiate—the musical landscape as it was being changed by technology.

At that time, *improvised* and *electro-acoustic*, two musical concepts and practices I was introduced to early on, became defining characteristics of my personal musical practice as it developed, as well as characteristic of many of the musicians

with whom I began to work. Additionally, as I traveled and performed, I would meet—and hear—more and more musicians incorporating these aspects into their practices. These concepts also led to the title of this dissertation, *Improvising Technology: Configuring Identities and Interfaces in Contemporary Electro-Acoustic Music*.

This work—an ethnographic examination of how certain contemporary electro-acoustic improvisers conceptualize their work—grew out of my own practice that began in the 1980s as an electro-acoustic improvising trumpet player/music technologist and the 1990s when I became a concert promoter and owner of a record label whose catalog includes electro-acoustic improvised music. Over the years, I have spent countless hours in discussion with artists about the ideas and practice of this music. Historically, in ethnomusicological work, the group of artists on which this study is based might be called informants and consultants, but I choose to call them what they are to me: friends and artistic collaborators.

My position as an insider and admitted fan of the music might present critical problems for some people. Critical frameworks set in place to help an academic investigator remain as objective as possible are employed, but regardless of their position, “All collectors leave their mark on that which they collect” as professor and historian Ben Filene wrote when discussing the field work of John and Alan Lomax (619). We all bring biases and preferences into our research, but being an insider brings with it an additional set of issues that are in part addressed by professor and musicologist Kofi Agawu,

At first blush, a reflexive ethnography, complete with various disclosures about field experience, comes across as more ethical than one that gives no hints of behind-the-scenes tensions. Yet, as we have seen, reporting experience also entails choosing some incidents over others. What are the ethics of choice? Whom does one seek to influence by playing down (or up) certain field experiences? Self-reflexivity as a public and publicized discourse is challenging and contradictory, making huge ethical demands on producers and consumers alike. (218)

There is also the inverse of Agawu's last question, which comes up whether you are an insider or an outsider: what might the subject of your interview want from you? My interviewees are performers and creators of electro-acoustic improvised music, and as a longtime promoter and record label owner involved with this style of music, maybe the people interviewed would want some benefit from me. I was curious how such "tensions" might arise in the interview environment. These were important concerns, not to be dismissed out of hand, and in the construction of the consent form—signed by all interviewees—such "benefits" were addressed. But it did seem in retrospect, while looking over the video recordings, instances of tension that would arise in the interviews came about in response to the pursuit of lines of questioning, not out of a desire for benefits or influence.

I bring to this study a knowledge of the musical practice that grows out of what might be considered "deep hanging out" by anthropologist Clifford Geertz (1998). This experience comes from performing and touring the music, familiarity and experience with the tools used by these artists from my own practical development and deployment of such tools in musical performances, and a personal connection with many of the musicians interviewed for this work that comes from long-standing

friendships and creative collaborations. Hopefully, my being a part of this particular musical community helped the artists to be comfortable during the interviews I conducted.

Terminology

The first part of the title of this dissertation, *Improvising Technology*, can be read several ways. First, technology can refer to the tools and techniques that musicians use in improvised music.¹ This technology can be traditional instruments, new instruments and repurposed objects used individually and in hybrid combinations. Second, the title can be about the creation of the tools as an improvisative act, the musicians making and conceptualizing tools of improvisation. And third, it can be about the tools themselves as actors/agents in the improvisatory act. Improvising, for the purposes of this paper, is defined in relationship to the multiple meanings presented above and in the shared agency of players/actors—both human and technological—in the improvisatory environment.

Improvising music will be examined as a live interactive construction and ordering of sound where the players/actors are not only constructing and ordering, but are being informed and presented with possibilities as to how to proceed by that which is being interacted with, constructed and ordered. This creates a feedback loop of

¹ Technology as defined in “straightforward” terms by author Debra Benita Shaw, “tools or ‘techniques’ that serve the requirement of any given culture” (1). In this dissertation the terms tools, instruments and technology will be used interchangeably.

possibilities where actors are both influenced and influencing, configured and configuring. Building on literary theorist Henry Louis Gates' work on the concept of "signifyin(g)" in his book *The Signifying Monkey: A Theory of African-American Literary Criticism* (1988), David Borgo and I developed the concept of "configurin(g)" in our conference paper, *Configurin(g) KaiBorg: Interactivity, ideology and agency in electro-acoustic music*,

Emerging from literary studies, signifyin(g) has been primarily used to understand intertextuality; the ways in which new texts enter into a dialogic engagement with preceding texts and, in the process, reshape our conception of the tradition in which these texts occur... Configurin(g) allows us to extend this theoretical orientation further into the domain of improvised music and to shed additional light on the embodied and performative aspects that define, enable and constrain our mutually constituted relationships between bodies and machines, and between sonic, material, and social space. To rephrase Gates, one does not configure something; rather, one configures and is configured in some way. (2010)

I will also be using the term actors in the sense developed by sociologist of science Bruno Latour: there is no privileging of humans in the activity, objects, (in the case of this study, musical tools, among others) become "participants in the course of action" (70). This idea will be more fully explored in Chapter 4. The idea of giving agency to non-human actors is controversial to some of the musicians I interviewed: but among many of them, there seems to be at least a tacit acknowledgement of a role that non-human actors play. As Latour writes,

After all, there is hardly any doubt that kettles 'boil' water, knives 'cut' meat, baskets 'hold' provisions, hammers 'hit' nails on the head, rails 'keep' kids from falling, locks 'close' rooms against uninvited

visitors, soap ‘takes’ the dirt away, schedules ‘list’ class sessions...and so on. (71)

In a similar fashion, an instrumentalist might realize the difference a mouthpiece or a change of strings can make in the way they play, or a singer might notice the difference that the reverb in a particular concert hall makes in how they perform. However, the agency of playing and performing (i.e., the “course of action”) is still frequently only given to the musician by many of the interviewees, limited to the idea of the intentional activity of humans—with notable exceptions. During the interviews, one of the questions I asked that garnered strong response was, “Do your tools influence the way you play music?” After a few similar followup questions with the aforementioned Nels Cline in a discussion of his use of the egg whisk on his guitar,² Cline became noticeably frustrated with the line of questioning and raised his voice, saying, “It’s not the whisk, it’s the whisk-er!” enforcing that *he* was the agent and the whisk did his bidding. But, as I will argue in Chapter 4, and for the definition of improvisation in this paper, agency will be given to all actors—and their relationships—in the environment: humans, tools, performance spaces and more.

² Cline would use the whisk as one might use a bow on a string instrument, rubbing the spring-wrapped handle of the whisk over his guitar strings and also rolling the handle rapidly between his fingers so the whisk end would bounce against the strings. He has now moved from using whisks on his guitar to large metal springs (Cline 2011).



Figure 1.1: Nels Cline in his apartment with his whisk, Los Angeles, California, December 28, 2011.
Photo by Jeff Kaiser.

The second part of the title builds on the idea of *configuring* as a feedback loop, and the related term *interface*. For this paper, interface means a related multi-directional flow of interaction between actors. The technology interfaces with the human user as does the user with the technology. This multi-directional flow has a role in the fluidity of musical *identity*: the artist's conceptualization, articulation and expression of their artistic individuality as well as ideas of cultural, genre, community and lineage affiliation they might share with others with whom they similarly identify. The role technology plays in the construction of identity is important and prevalent: many cultures are frequently, at least partially, identified by their technology. Professor of philosophy of technology Andrew Feenberg writes, "Understanding the world and identity go hand in hand. Both are fluid in modern societies, and both are intertwined with technology" (xix). Groups of musicians are no different in the role technology

plays on the formation and articulation of identity, and that identity reflexively plays on the development of new technologies and the perpetuation—or the repurposing and transformation—of old ones.

The conceptualization of musical identity and the relationship to technology seems evident as musicians frequently self-identify by combining genre identity and instruments (technology)—rock guitarist, jazz pianist, classical violinist and so-on. These terms are quite broad in meaning. For example, rock is a category that includes multiple sub-genres, and in the same fashion, guitar is also a broad term which might mean acoustic, electric, dobro, 12-string and others. Yet musicians still use the genre/technology pair as a quick means of identifying what they do. Electro-acoustic, as a term of identity and as used in the title of this work, is similar in its slipperiness and imprecision of meaning.

The final part of the title of this dissertation uses the term *electro-acoustic*. The term electro-acoustic refers to the transfer of energy between the electronic and acoustic realms, and in music has become a broad term referring to diverse practices in experimental music that employ—at least partially—electronic technologies.³ Adding *improvised* to the term *electro-acoustic* further complicates the history and definition, as many of the musicians interviewed also have roots in improvisational practices coming out of free jazz and psychedelic rock in the sixties that employed the experimental music practices of both live and studio-based electronics. In the 1960s,

³ It is not my intention to give a history of electro-acoustic music here, but only to highlight points that may inform or relate to the ideas of those being interviewed.

this included the use of the Varitone saxophone and commercially available synthesizers, mellotrons, and audio effects such as distortion, echo, reverb and ring modulation. These practices would freely draw from each other, but the use of the term improvisation highlights the difference, and the tension, with other experimental Western art music performers in the sixties and before: many practitioners who were defining their music as being aleatoric or chance based. The terms aleatoric and chance were used by some artists to distance themselves from jazz traditions, where the use of the term improvisation frequently aligned musicians with African-American improvisational music practices .

Identities certainly follow lineage, but when using the term *experimental music* as above, I wish to avoid any monolithic construction of it as a specific tradition that is owned by a specific historical practice. Experimental music is first and foremost, for the purposes of this paper, a musical concept and activity not limited by specific genre or tradition. (In spite of the fact that it is selectable as a genre in iTunes and other commercial music vendors.) Experimentation (and exploration, to use another term) with technology are common to many musical traditions and time periods: from Association for the Advancement of Creative Musicians (AACM) founding member Muhal Richard Abrams' use of reverb in *Levels of Degree and Light* to country musician Pete Drake's use of the talk box on *Forever*, Sonny Stitt's use of the Varitone, Miles Davis' use of the wah-wah pedal and Don Ellis's use of the ring modulator and Echoplex. As author and critic Ira Gitler wrote in the 1968 liner notes for trumpeter/composer Nat Adderley's album *You, Baby*, which incorporated

experimental electronics, “The expansive field of music, certainly a fertile area for experimentation...” (1968). The musicians interviewed here represent this diverse idea and “fertile area” of experimental music from artists coming out of popular traditions, to practitioners embracing Western art experimental traditions.

Methodology

The primary research resource for this dissertation were interviews that I conducted. In these interviews I explored the ideas and conceptualizations of the musicians using a combination of set and extemporaneous questions. All the musicians interviewed here work with electro-acoustic technologies and improvisation.

Interviews in general can be problematic, especially with artists that are more well-established and have participated in many interviews. After being repeatedly asked similar questions, as well as applying for grants and other resources that require an artist statement, the aesthetic positions of an artist can become calcified, and rather than providing specific information the interview can become a method of furthering artistic careers through the perpetuation and standardization of an artist’s statement and aesthetic. The form and content of the interview itself can feed back and have effect on music. Derek Bailey, guitarist and improvising musician, found this troubling, saying in an interview:

Well, the first thing I’d like to say is that I think the interview is useless as a source of reliable information, largely because of the people who usually get interviewed. Certainly where there’s any

career aspects involved at all. Now this might not apply at all to your stuff – but the interview's been going on so long and so widely accepted that it becomes more or less a regular part of people's thought, they think about their work in the interview form. So they have the answers lined up, and they have good answers. It's not enough to be meandering on and not making any sense, they finally see it in print and they realise what sounds good and what doesn't. So somebody whose a practiced interviewee – if that's the right word – can spin a right tale. And they do, you only have to listen to the old blues players, guys who've been interviewed over and over again, I mean they run rings around these jazz critics. (1988)

Bailey continues, discussing what he see's as problematic with the practiced interview,

But – to get to the main object – there are guys who've kind of shifted their aesthetic positions to fit in with their best description. They do something which is pretty well undefined – because I mean they don't know precisely what they're doing anyway – then they come to talk about it, and they present this edifice about it. Now, what they do is over there and what they say about it is over here, and what they say about it is much more attractive, possibly, than the thing they do and gradually what they do comes over here to match what they say! Now I actually know a couple of examples of that – which I'm not going to tell you about – of well known players who seem to me to have somehow shifted their attitude towards music to fit in with this aesthetic they've developed through talking. So when the old guys – jazz players I mean – used to go, 'Well, I just play man,' maybe that was the best possible answer. (1988)

Several of the artists I interviewed definitely had a practiced feel with their answers. One artist even told me specifically that she had practiced interviews so she could speak clearly about her work. But other interviewees felt more spontaneous, the assistant for one well-known artist I interviewed told me not to worry about getting a standard statement, as the artist himself never said the same thing twice. What Bailey sees as a problem, I find interesting: How does the conceptualization by the artists

affect their practice? How does practice affect conceptualization? Where Bailey finds “I just play, man” as the best answer, I find the feedback relationship between conceptualization and practice fascinating.

For the interviews, I developed a series of questions that I presented to artists while videotaping our interaction. The following list includes the questions that were prepared in advance, but many times, brisk conversation would follow that would take the interviews in different directions. Here are the basic questions:

- 1) Please describe what you do. Can you describe your sound?
- 2) Why do you work in electro-acoustic improvised music?⁴ What is compelling about the medium?
- 3) How does your music differ from what others in the field do? Who do you view as similar?
- 4) Is your music driven by a specific aesthetic?
- 5) What tools and instruments are used? Can you please describe your physical relationship to your tools/instruments? Are you passionate about a tool or specific technological platform? Why? Do your tools influence the way you play?
- 6) What other artists do you work with? What type of instruments do other members of their ensembles use? What are the size of ensembles?
- 7) Where do you live? How does the environment affect and inform your music?
- 8) What venues/locations do you perform at? Who is your audience?
- 9) What is driving the creation of the music? Artists, audience, technologists, tools, reception, industry?

⁴ After this, I will be using the acronym EAIM when possible.

10) What are the conceptions of skill in EAIM? What musicians do you think exemplify this skill and why? How does one gain such skills?

The interviews themselves were all conducted live between June 2010 and December 2012. Several interviews were conducted at STEIM (STudio for Electro-Instrumental Music) in Amsterdam while I was an artist in residence there during the month of August 2010. (I have also held residencies there in 2008, 2009 and 2012.) STEIM is one of the leading research institutions in the world that explores and promotes electro-acoustic improvised music. The organization, while being supported by the Dutch government at the time, had a truly transnational character, with employees not only from The Netherlands and throughout Europe, but from Korea, the United States, Japan and other countries. At the time of my residencies there, the atmosphere at the guest house and studios of STEIM was one of passion and excitement for the exploration of both new music and new tools for creating music. People from many different countries were present as artists in residence as well, sharing ideas over STEIM sponsored lunches, coffee breaks at nearby cafes and over beers following the concerts presented in the STEIM facilities.

The interviews I conducted in Amsterdam included the following artists:

Lesley Flanigan: Flanigan trained as a visual artist studying sculpture and technology at New York University, but moved into musical performance in 2007 after building her first speaker feedback instrument. Flanigan still lives and works in New York. Interviewed August 7, 2010 at STEIM. <http://www.lesleyflanigan.com>

Anne La Berge: La Berge moved to Amsterdam in 1989, and has since gained international acclaim as a flute player and composer working with improvisation, composition and new technologies.

Interviewed at her house on the edge of the city of Amsterdam.
August 1, 2010. <http://annelaberge.com>

Takuro Mizuta Lippit (a.k.a., dj sniff): Experimental turntablist who was the artistic director (2007-2012) for STEIM. Lippit is originally from Japan, studied in the United States and recently has moved to Hong Kong. Interviewed August 3, 2010 at STEIM. <http://www.djsniff.com>

Joel Ryan: A professor at the Institute of Sonology—and a part of STEIM since 1984 (moving to The Netherlands from the United States) with various roles, from artistic director to director of education. In addition to his administration and educational roles, Ryan is well known in electro-acoustic music circles for his pioneering work in and championing of live electronic musical performance, including work with Evan Parker's *Electro-Acoustic Ensemble*. Interviewed August 3, 2010 at STEIM. <http://jr.home.xs4all.nl>

Gregory Taylor: Taylor is from Madison, Wisconsin. He began performing professionally as a keyboardist in bar bands in the United States while working on supercomputers. He is currently the head of documentation for Cycling 74 (the company that develops the Max/MSP/Jitter suite of software for interactive art programming). Taylor performs with many different electro-acoustic improvisational ensembles, including *The Desert Fathers* with the author. Interviewed August 6, 2010 at STEIM. <http://www.rtqe.net>



Figure 1.2: The author (left) with Gregory Taylor during their residency at STEIM, August 2, 2010.
Photo by Jeff Kaiser.

Following my residency at STEIM in August 2010, I rented an apartment in Berlin for five weeks and conducted interviews during that time. Berlin has an extremely active and diverse experimental music culture, with an audience base that appreciates a wide variety of music. The Berlin scene has spawned many venues from squats in abandoned or unoccupied buildings to clubs throughout the city, but particularly in the boroughs of Neukölln and Friedrichshain-Kreuzberg. This rich musical atmosphere is attractive to musicians from around the world, including those working in EAIM. Many musicians from around the world working in EAIM have

migrated to Berlin, and many others pass through enjoying and participating in the large number of venues presenting improvised music nightly.

Artists that I interviewed in Berlin, in addition to Germany, came from Peru, Japan, France, Ireland and the United States including:

Liz Albee: Albee performs with amplified electric motors and trumpet. She is originally from San Francisco and now lives in Berlin. Interviewed August 25, 2010 at her studio. <http://www.lizallbee.net>

Roy Carroll: Carroll performs with custom hardware and software of his own design. He is originally from Ireland, but now lives in Berlin. Interviewed August 11, 2010 at his studio. <https://sites.google.com/site/royelylyonscarroll/activities>

Maria Chavez: Chavez is an experimental turntablist. She is originally from Peru, but now lives in New York. Interviewed August 18, 2010 at her apartment. <http://www.mariachavez.org>

Olivier di Placido: di Placido is an experimental guitarist who works with a partially disassembled guitar and amplification. He is from France. Interviewed August 28, 2010 at his apartment. <http://olivierdiplacido.wordpress.com>

Thea Farhadian: Farhadian is a violinist who works with custom designed software and hardware. She is originally from San Francisco, but now lives in Berlin. Interviewed August 19, 2010 at her apartment. <http://www.theafarhadian.com>

Robert Henke: Henke is one of the original authors of Ableton Live, and at the time of the interview was professor of sound studies at Universität der Künste Berlin. He performs and records under the name *monolake*. Interviewed August 12, 2010 at his apartment. <http://roberthenke.com>

Yutaka Makino: Makino works with wavefield synthesis and custom software. He is originally from Japan and studied at University of California Santa Barbara. At the time of the interview he was working in Berlin on a grant from the German Academic Exchange Service or

Deutscher Akademischer Austauschdienst (DAAD). Interviewed August 19, 2010 at his apartment. <http://www.yutakamakino.com>

Keith O'Brien: O'Brien works with guitar, custom software and hardware. He records and performs under the name *amoebazoid*. He is originally from Ireland and now lives in Berlin. Interviewed August 20, 2010 at his studio. <http://irishmusicdb.com/a/amoebazoid/frame.htm>

Ignaz Schick: Schick is an experimental turntablist, originally from Bavaria, now lives in Berlin. Interviewed August 27, 2010 at a park. When it began to rain, we moved to a nearby cafe. <http://zangimusic.de>

I conducted other interviews at the homes, studios and apartments of artists in the United States, including:

Nels Cline: Cline is a guitarist who works with many artists from popular music to experimental and improvised. Interviewed December 28, 2011 at his home in Los Angeles, California. <http://www.nelscline.com>

Curtis Rochambeau: Rochambeau performs live sound generation using laboratory equipment from the 1960s and earlier. Interviewed July 2, 2010 at his home in Springfield, Oregon. <http://crochambeau.blogspot.com>

Wadada Leo Smith: Smith is a trumpet player and composer, member of the AACM. Interviewed November 28, 2012 at his home in Ventura, California. <http://www.wadadaleosmith.com>

Zachary James Watkins: Watkins is a lecturer in electronic music at UC Santa Cruz. He works with custom software combined with circuit bending. Interviewed August 24, 2011 at his studio in Berkeley, California. <http://zacharyjameswatkins.com>

And finally, several interviews took place in different locations, including:

Alex Nowitz: Nowitz is a singer and composer from Germany. He uses custom hardware, game controllers and software to manipulate

prerecorded and live vocals. Interviewed May 22, 2011 at the Krazy Coyote, a bar in the middle of California's Anza-Borrego desert. <http://www.nowitz.de>

Pamela Z: Pamela is a singer and composer who works with custom software and hardware. Interviewed March 13, 2011 at the home of a friend in San Diego. <http://www.pamelaz.com>

Chapter Overviews

Throughout all the interviews I pursued the core questions listed earlier. There were four particular areas that artists seemed to find the most compelling—for both positive and negative reasons. These four areas will be addressed in the following three chapters: first will be the artists' description of their practice, the next chapter will examine what they find most compelling about EAIM, and in the following chapter there will be an examination of the tools they use including a discussion of conceptions of skill and virtuosity.

Chapter 2 will serve as an introduction to the artists through their description of what they do and how they conceptualize their practice and their sound. Much like the self-identifying *rock guitarist* or *jazz pianist*, when asked to describe their musical practice, many of the musicians start with similar statements about electronics, improvisation and possibly their instrument. For example, Thea Farhadian stated, "I improvise acoustically with the violin and laptop..." or as humorously shown by Keith O'Brien, who answered the question "A confused knot of guitar and electronics" to Robert Henke's introspective "'I still don't know' is probably the most correct

answer.” These answers frequently led into a more complex discussion and description of the work. I will also examine the importance for many of the artists that the role of building an instrument plays in their music, and that this process of building is part of the development of their performance practice.

In the midst of artists discussing what they do, and the complicated streams of influences and lineages, there was also a recurring discussion of conflicting discourses in both improvisation and technology. The first tension is found in the discussion of what influences the work, in particular two discourses of improvisational music: one that has its roots in African American musical practices, and one aligned with ideas of chance and aleatory in music coming out of American experimentalism. These two discourses have been at odds, as some early practitioners in American experimentalism had a history of dismissing the influence of African American creative practice on experimental music. This tension was revealed in certain interviews when artists discussed how they use improvisation in their music. One artist specifically declined to self-identify as an improviser—but would refer to their music as improvisational. There was a tradition associated with the term improviser that the artist did not want to claim, and instead wanted to be aligned with other American experimental traditions.

There is also tension from a division, or perceived binary, between two classes of technology: one being a strongly held preference among some of the musicians for hardware, analog and hackability (including vintage and repurposed tools) and the other side expressing a preference for the use of contemporary software tools coming

out of academic and commercial developers. But this tension of technology is also a non-issue for other artists such as Zachary James Taylor who combines analog hardware circuit bending with the software environment of Supercollider.

Chapter 3 will focus on what the interviewed musicians find compelling about EAIM. In this chapter I will examine what is driving the musicians' work and explore how musical value is constructed by this group of musicians. The way the musicians experience performing and creating music is key in this discussion. For example, there is frequent mention in the interviews of the role pleasure (among other things) plays in their performance of the music—enjoyment being a concept that seems common for people in many music traditions. I will also explore the role concepts of adventure, exploration and surprise play in the music. There is also the ubiquitous concept of freedom mentioned by artists that I will explore. In the discussion of ideas of freedom—and in the midst of influences, lineages, histories—there is an interesting tension arising from the perception that electronic musicians have historically focused on timbral exploration. Timbral exploration, a freeing of sound, is perceived as having been prioritized over the freeing of other musical elements such as melody, harmony, form and performance.

Many interviewees viewed technology as compensatory for a perceived lack of musical education, in particular, the lack of formal training and skills in a traditional music or instrument. I will also argue that this concern is a distraction from the value of new emergent and remediated skill sets in EAIM.

Chapter 4 will examine how the musicians conceptualize their relationship with their tools, how they perceive the function of the tools and the role of the tools in their creativity. I.e., are the tools perceived as passive extensions or are they active participants in the music making? Or are there other options? The answers leaned heavily in the direction explored in my interview with Wadada Leo Smith, where he emphatically stated in regards to his effects pedals, “All these things are alive...” But there are other strongly held beliefs from artists that the tools are extensions under the control of the artist. In addition to drawing upon the work of Latour, in this chapter I will employ ideas of system-environment hybridity from the theory of scholars Bruce Clarke and Mark B.N. Hansen. I will also focus on the concept of remediation—the manner in which new technologies incorporate previous technologies—as first explored by Marshal McLuhan, and later by scholars such as Jay David Bolter, Richard Grusin and Martin Lister.

In Chapter 4 I will also explore the artists’ varied conceptions of skill (and virtuosity) within their practice. This will include discussions of motoric skill (learned, repeatable physical skills) and its role in conceptions of virtuosity: a highly contested idea with some of the interviewed musicians. Motoric skill as virtuosity, is, for several of the musicians interviewed, connected to the perceived excesses of certain factions within Western art music, jazz and other established musical performance practices, where motoric ability can become conflated with (or at least the primary element of) musical skill writ large.

Alongside this I will also examine ideas of anti-virtuosity, a reactive counter-ideology to the prioritization of motoric skill in a musical practice, and look at the sometimes vehement response that some musicians have to the very notion of considering virtuosity important. In addition to issues of motoric skill, I will look at less quantifiable ideas of musicianship that are used by the interviewees such as broad concepts of artistry, novelty and innovation, as well as an examination of the tension between traditional views and changing conceptions of skill in the interviewed musicians. For many of the musicians, skill becomes about the less tangible (as compared to motoric skills) concepts of hearing, creativity, imagination and even ideas of management as a musical skill involved in the conception of musicianship. Many of the interviewees also addressed ideas of skill acquisition, skill transmission and the projection of one learned skill onto different instruments and technologies.

For the concluding chapter, I will look at a possible explanatory model as to how these diverse practitioners—with their differing tools, sounds and practices—are connected. If we were to employ what might be considered traditional signifiers of musical communities in Western culture: ideas of similarity in sound, form, style, instruments, geography, repertoire and venues, to mention a few, this set of musicians would not be viewed as connected. But as professor and musician George Lewis writes, “Combining improvisation with technology can propose new models for the study of meaning and sociality...” (Lewis 2007).

There are certainly shared qualities among the musicians interviewed: concepts such as electro-acoustic and improvised, but in other ways, this group of musicians is

an inverse of other musical communities. Rather than having a shared practice and shared conceptualization, there is in this music a wide and varied practice with a shared conceptualization. There is something special at the core of this musical practice binding these artists, instruments and their music together: a shared conception, knowledge, understanding and self-identification that becomes the defining characteristic of the music leading to differing practices. Similar to a “thought collective” (Fleck) or a “paradigm” (Kuhn) in science and sociology, this group of musicians can be seen as an emergent and shifting epistemic community, a community where knowledge—in this case conceptual knowledge—is the primary connecting principle. Paraphrasing political theorist Peter M. Haas’s work on epistemic communities, a community where practitioners of this music have a shared, but flexible, set of beliefs representing values that lead to musical production of a conceptually related type (Haas 1992). The musicians possess a “shared way of knowing” which is used to discuss and define this music with distinctive practices emerging from the prolonged encounter of multiple streams of musical conceptions and practices.

Chapter 2:

Descriptions: Commonalities and their Complications

In music we are still under the sway of semiotics and language philosophy, which I think is pernicious because it always degrades what musicians know about music and elevates some sort of symbolic representational concept of music. So the representation becomes more important than the stuff of music. The representation is just a tool, and it's true that writing can liberate possibilities, but it always has to reflect back to the meat of music, to the wet meat of music... (Ryan 2010)

When I asked the musicians to describe what they do, there were many varied reactions and responses, but categories shared by multiple interviewees began to emerge. There were broad categories of conception shared and articulated by many of those interviewed. The first area I will explore in this chapter is the statement from several of the artists describing their music with the sound of malfunction and related ideas. This will be examined as a theme in the history of experimental musics and is a recurrent theme in statements by the artists interviewed. This leads next to a

discussion of the tensions inherent in EAIM practice emerging out of multiple traditions, including Western art music experimentalism and improvised music experimentalism. This will also include an exploration of artists' connection of identity with technology and improvisation, and tensions in the connection of artists with concepts of lineage: the apparent contradiction between the identity of—and affiliation with—a community or tradition, concurrent with the strong desire of the musicians to differentiate themselves from, and within, that affiliation and community through the perceived development of a unique and idiosyncratic practice.

The next area I will examine is the central role, for many of the artists, that instrument building plays as a descriptive component of their performance practice. In Western art music, there is a history of experimental instrument builders, but frequently (with the exception of musicians like Harry Partch) these were craftsmen who built instruments for performers, such as Leon Theremin and Robert Moog. This began to change with access to new technologies such as MIDI and digital audio tools. Most of the artists interviewed build their own instruments, or at least components of them. These instruments are hardware constructions, software or a combination of both. Some of the musicians create their instruments by combining extant hardware componentry into new complex physical systems and others build from newly designed and constructed components.

Before addressing these areas, there was also a pattern that I noticed from responses to the first question I would ask, “Can you please describe what you do?” The pattern plays into the idea examined by Derek Bailey about the form of the

interview, a form that was somewhat consistent among many of the interviews. The consistency of the following could be a sign that the interview for these artists has become fixed in some way, that expectations are creating the form, expectations that could come from interviews that the musicians have read or heard, and patterns from their own previous interviews. Here is a generalization of the contents and order of answers by the artists, which may, or may not be common with discussions of artistic identity: there would first, be a statement on the difficulty or impossibility of describing what they do, that would be followed by a clear articulation of their identity such as the technology/genre pair or a short list of facts or descriptors about their work. After the list of facts, there would be a more complicated engagement of the ideas that might involve poetic statements and use of metaphor.

The first statement that artists would make on the difficulty of describing what they do is exemplary of an issue with which musicians, ethnomusicologists and musicologists in general have had difficulties: communication about one expressive domain (music) using the terms of another expressive domain (language).

Musicologist Charles Seeger referred to this difficulty as the *linguo-centric predicament*, writing,

Participation of speech-communication in the study of music poses a unique instance of the *linguo-centric predicament* in that one communicatory medium is relied upon to communicate about another because that other does not do so... There is, therefore, no direct check upon our talking about music; for music cannot refer to speech in a manner that can satisfy the requirements of speech-logic. Indirect check might, of course, be expected to be found in the consensus of competent musicians. But this consensus, practically unanimous as it

is in music-communication within any one tradition, usually falls apart once the attempt is made to present it in speech-communication. (1961)

It is a sentiment that has gone on through many iterations, from jazz musicians to pop musicians, critics to comedians, phrased as, “Talking about music is like _____ about _____.” (Dancing/architecture, singing/economics et cetera.) Seeger writes above that there is certainly caution to be taken when using “speech-communication in the study of music.” But, as scholar Nicholas Cook so concisely stated, “We use words to say what music cannot say, to say, what we *mean* by music, what music means to us” (1998).

Though not explicitly asked of the musicians, the idea “what music means to us” seemed to permeate the discussion, and possibly ameliorate the difficulties presented by the linguo-centric principle. The musicians interviewed are all people who devote their life, income, time, all they have to making music, so music is of great import and has powerful meaning for them. Many did find it difficult to start the discussion, such as Curtis Rochambeau who said his music is “Difficult, if not impossible, to describe...” but then, like others, would go on to describe in great detail what they do. Singer and technologist Pamela Z also stated “It is hard to describe what I do” before clearly describing what she does. Zachary James Watkins was very clear in his position that music was not about the words, that they are “... ideas that are more about the experience of the music than being able to necessarily talk about it.” Even more strongly, I had one interview request denial by a musician who said, “I am

creating music right now, I cannot talk about music when I am creating.” For her, the act of talking about music would dissipate the creative “energy.” So she refused.

These statements seemed to be a preamble, or caveat, that the musicians felt it was necessary to at first acknowledge the different domains of music and language before proceeding. This does not mean that it was not actually difficult for the musicians to describe what they do—it was for many—just that it was important for the musician to let me know that the music was about something more, or at least different, than words.

I believe this tension, regarding the use of words about music, combined with the pressure that interviews can generate (the musicians are, after all, representing their ideas to the world), was also responsible for what I refer to as a *blossoming* pattern that interviews frequently followed. This blossoming pattern would follow a short list of facts, then—as the interviewee became more comfortable in the discussion and possibly organized their thoughts—the short list of facts would be expanded and developed in discussion. This pattern played out over and over again.

Irish musician Roy Carroll followed this pattern when he began his description with the statement, “I play a sampler built in Reaktor.”⁵ But as we can see from Figure 2.1 it is obvious that Carroll does much more than just “play a sampler built in Reaktor.” As I learned, Carroll not only built the sample in Reaktor, and plays it, but the sound he creates with his system is used to drive audio speakers that have physical objects placed on them. (Such as the Perrier can in the photo, which has metal beads in

⁵ Reaktor is a software authoring application that uses a graphical programming environment.

it and a clip on the pull-tab.) The software causes the speakers to resonate at audible and sub-audible frequencies that cause the physical objects placed on them to vibrate and create mechanical, rhythmic and pitch based sounds. The resonant object/speakers are then treated as localized acoustic instruments, being that the listener focuses on the sounds made by the objects rather than the sound coming out of the speakers themselves. It is an interesting and complicated set up, much more rich in detail than the simple description of “a sampler built in Reaktor.”



Figure 2.1: Roy Carroll in his Berlin studio, August 11, 2010.
Photo by Jeff Kaiser.

This just-the-facts based beginning of the interview also engages the difficulty of the linguo-centric predicament by acknowledging the complexity of what a musician does, how it goes beyond words. This fact based statement allows an encapsulation in words to be made by the musician that draws upon the listeners prior

knowledge of what it means to play an instrument: i.e., if we break down what it means to play an instrument, we realize the statement *I play [any instrument]* is representing a very complex activity in a very compressed number of words.

Liz Albee, a Berlin-based musician who at the time of the interview had recently migrated from San Francisco, starts with a similar statement of facts but then expands this statement, building up to a description of her sound:

I play trumpet and electronics. Sometimes I use electronics on my trumpet, sometimes electronics alone. I like taking things apart. I'm obsessed by things that spin. And generally, how things malfunction. I only use a laptop to record. I like little motors from tape machines and use pickup mics on them. I like to take things apart, I generally break things, but sometimes that's to my advantage...It sounds like people cutting down trees and people barfing. (2010)



Figure 2.2: Liz Albee at her apartment in Neukölln, August 25, 2010.
Photo by Jeff Kaiser.

Albee speaks in short descriptive sentences whose meanings begin to build upon the previous statements, opening into other ideas, building upon one another,

until we begin to understand what she is talking about. Key words describe the physical involvement, the creation of the tools, the performing with the tools and—as Carroll earlier—her identity as a musician is connected with the technology. Albee enjoys “taking things apart” and has a tendency to “break things,” in particular, things that spin.

As Albee describes her work, you can begin to hear the spinning motors and the sound of equipment “malfunction” being amplified and projected into a room. And then she hits us with her description of what her music sounds like. After hearing her perform, her sound description is quite accurate through the use of metaphoric sound mapping (the understanding of one sound in terms of another sound). When Albee amplifies these small spinning motors, the sound is at times huge, and very much reminiscent of chain saws hitting trees. And yes, when the small, rapidly spinning blades of another motor were mic’d and manipulated, it sounded like the act of vomiting, with the electronic filtering, and the change in sound quality as the motors are physically manipulated, acting like the changing resonance of a mouth cavity.

The sound of “malfunction” is also taken up by Curtis Rochambeau who refers to his sound saying, “It does sound a bit like equipment failure.” This embracing of what could be seen as negative terms by some (“malfunction” and “failure”) is a theme in the development of this musical practice, and was clearly articulated by musician Kim Cascone in his text, *The Aesthetics of Failure: Post-Digital Tendencies in Contemporary Computer Music*, the difference being that the artists I mention so far are using hardware, as well as computers.



Figure 2.3: Curtis Rochambeau in his living room in Springfield, Oregon, July 7, 2010.
Photo by Jeff Kaiser.

There is a lineage of musicians and artists thinking about music in such a way that Cascone traces going back to the Futurists, an early 20th century arts movement that began in Italy whose members created instruments they called *intonarumori*,

...subsequent experiments with *intonarumori* (noise intoners), which imitated urban industrial sounds...The Futurists considered industrial life a source of beauty, and for them it provided an ongoing symphony. Car engines, machines, factories, telephones, and electricity had been in existence for only a short time, and the resulting din was a rich palette for the Futurists to use in their sound experiments. (2000)

As jazz historian Kenneth Bindas writes about that time in history, “The machine and what it represented—efficiency, logic and a better life for all—became not only an object, but a process and symbol for the modern age...It seemed as though man and machine working together could accomplish any goal” (21). Where the Futurists embraced the sound of the Industrial Revolution, the working machines,

racing car engines and more, other artists, such as Jean Tinguely and his self-destroying sculpture, later began to embrace the sound of machines falling apart.

With contemporary musicians such as Albee, Rochambeau and others, we now have the post-industrial sounds of equipment failing—a strange blend of contemporary practice that looks back to times and equipment right before computers—as the source of sound. Rather than failure and malfunction being rejected, it becomes incorporated into the performance practice.

This idea of the sound of malfunction is also taken up, a year later than Cascone, by software author David Zicarelli who owns Cycling 74, the company that develops the popular programming environment Max/MSP/Jitter (originally authored by Miller Puckette). In Cuba, at the 2001 International Computer Music Association annual gathering, Richard Dudas, musician and Cycling 74 employee (at that time) read the keynote address written by Zicarelli. Zicarelli, humorously, but also earnestly, writes,

...let me present the three metaphorical structures into which almost all computer music can be categorized. They are: machines operating properly, machines breaking down, and sword fighting...The first two categories are by far the most important, and the third was added only recently. I am certainly willing to entertain other structures, but I suspect they will be of relatively minor importance, similar to my third category. (2001)

In his keynote, Zicarelli presents an intriguing argument that the focus on timbre in computer music has relegated other elements of music (form, melody, performance) into “supporting roles.”⁶ Using humor, Zicarelli makes a point,

Now, I’m sure you’re all wondering about my third category, sword fighting. Let me suggest a little experiment, and I hereby provide you with perhaps the only technical component of this talk, my secret synthesis technique heretofore explained only to a handful of my closest friends and associates. Next time you are in your kitchen, take out an ordinary whisk—you know, the kind with which you beat eggs or mix flour—and grasp it at the very top. Now drag it across a wood surface such as a floor or cutting board outfitted with a contact mic using a technique that allows you to change directions and angles quickly. Voila: you will have replicated a fair portion of the electronic and computer music literature. (2001)

This combination of humor and earnestness is also present in musician Bob Ostertag’s article, *Why Computer Music Sucks*, where Ostertag writes,

The problem of greater technological power failing to produce more interesting timbral results would not be so central were it not for the fact discussed above that Computer Music has made timbral exploration its central concern. To put the matter in its bluntest form, it appears that the more technology is thrown at the problem, the more boring the results. People set out for new timbral horizons, get lost along the way in the writing of the code, the trouble-shooting of the systems, and the funding to make the whole thing possible, then fail to notice that the results do not justify the effort. (1996)

I certainly understand how Ostertag could be “burned out” on computer music. His essay was written after judging 287 works submitted for an electronic music competition (1996). The exposure to so much similar music seems to have amplified his general dislike of the music. The difference with the music I’m examining in this

⁶ In the classic text, *Foundations of Computer Music*, originally published in 1985 we find references to timbre in the index far outweigh references to melody, harmony and rhythm (1985).

dissertation is that it is improvised electro-acoustic music. The above texts were all about computer music in general, more focused on academically oriented computer music specifically, where timbre is referred to by Zicarelli and Ostertag as the “central concern.” Timbre, while playing an important function, is only one of the defining musical elements at play in EAIM, but the timbral variety afforded by electronic technologies plays an important role in descriptions by those interviewed. On the one hand, improvisation can seem to reinforce the abstractness of timbre as improvisers focus on timbral elements, but for the musicians interviewed, improvisation integrates broader musical concerns and aspects with timbre.

EAIM and computer music are not alone in valuing timbre, or the quality or character of what makes a sound unique. The great orchestrator and arranger Gil Evans famously referred to Miles Davis and Jimi Hendrix both as important because they were “sound innovators,” artists who had an approach to sound (of which timbre is a crucial role) that was not only different than their predecessors, but which Evans considered revolutionary (Stein Crease, 146 and 259).

Other artists interviewed mention embracing malfunction, failure, chance, accidents or—in the case of Maria Chavez—“brokenness” playing a role in their music, both in the development of timbral and formal material, but also as a methodology of composition and improvisation. For turntablist Chavez, the concept of “brokenness” is of central concern to her work.



Figure 2.4: Maria Chavez performing at NK, Berlin, August 11, 2010.
Photo by Jeff Kaiser

At a concert in Berlin, I observed Chavez seated in front of a single turntable, Chavez starts playing the record. But the path the needle takes in the grooves—as for so many working with experimental turntablism—does not follow the circular rut as the creators intended. Hands, vinyl, needle work together to create loops and jumps and skips and scratches, friction amplified and made audible to the audience. But the hands, vinyl and needle do not operate alone: a rose quartz bracelet or other jewelry might be thrown on the disc, interrupting and redirecting the broken needle, and if the disc is metal, the sounds of the quartz hitting the grooves makes audible zings. As the disc is dragged and the needle nudged, things break. In particular the needle might go

from a pointed claw-like shape of a new one designed to hug the groove, to a rounded nub, that now skitters around freely, no longer confined to the contiguous line. The needles that are broken are not discarded after the performance, instead they become cherished for the unique ways in which they interact with the vinyl and sound. With a collection of differently broken needles, Chavez sees them metaphorically as “pencils” interacting with the geography of the vinyl, which becomes the palette. Chavez, in a similar pattern as noted earlier in this chapter, gives a clear description of her identity, and then begins to complicate it:

I am an avant-garde turntablist. I create improvised electroacoustic sound pieces using vinyl and needle. I have a collection of broken needles that I consider my pencils of sound, and I have a collection of vinyl that provides the palette and I combine the two to create sound pieces that last from twenty seconds to twenty minutes long.

I think, when I first began, the work was interesting to me because I didn't understand it very well. I felt that I was developing my vocabulary and so every time I performed, whenever a new needle would break in a certain way, it was a new sound. So, then it was, kind of, you know, I was building these interactions and learning my vocabulary in this, kind of, accidental way. In a way, I kind of feel like, if you think back anthropologically, like this must have been what language must have been like... So, that to me was really interesting, that kind of thinking of the beginning of language and the beginning of my language... I was a DJ at first and so I thought it was just something that just happened and then when I started to perform people started to come up to me and say like, “Oh, have you heard this guy or [that guy],” and I said, “No, and I don't think I should.” For the first two years of my career, I didn't want to be influenced by outside sources. I don't want to sound like other people. So, for the first two years of my work I didn't listen to anything. I just listened to like free jazz and things like that...

I know for many people my sound is very raw and a bit abrasive, but I feel like I'm a purist. I used to call myself an involuntary purist, but

it's really developed into now I'm a purist, and when it comes to friction I really love the possibilities of friction...I started off with two turntables and I realized about two years in—I was on tour, in my very first tour and I realized I don't focus when I have two turntables. I need to have just one in order for me to really create a piece and focus on the environment and on the people that I'm performing for. If I have two I'm just focusing on what's happening between the two, like, mechanically, and with just one, I can just focus on allowing myself to let myself go. So, as far as sound source are concerned...I don't even look for records anymore, like the records find me in a weird way like—actually my friend—when I was about to leave her place and she's like, “Oh, yeah! I found you a record, here.” And I saw it, and I was like, oh, this will be the first piece. I didn't even listen to it before I played it, because that was the first time—we were all listening to it together. I'm not like, oh, I'm going to do this little trick to kind of wow the crowd...but I'm not really interested in creating those sounds on a regular basis...that I'm still excited about and that still surprise me. (2010)



Figure 2.5: Maria Chavez at her apartment in Kreuzberg, August 18, 2010.
Photo by Jeff Kaiser.

Chavez employs the ideas of “accidental,” “surprises,” and later, “chance” to describe her relationship with her tools. These events can be seen also as examples of

agency of the other actors (her tools) in the performance. What is interesting for me in her description above, is the way things breaking keep her surprised and excited about still doing what she does musically. Her system, an analog one of vinyl, needles and spinning surfaces becomes a system of interaction, similar to the software agent described by Yutaka Makino,



Figure 2.6: Yutaka Makino at his apartment in Berlin, August 19, 2010.
Photo by Jeff Kaiser.

I do improvisation in a way that I am improvising with a system rather than a human agent. I prefer using the machine agent. It is mainly a computer program which has its own behavior. Sometimes it is independent from whatever I do, sometimes it is a more reactive environment. Then it just exists as an instrument that requires my input to get something out...It doesn't make sense to me, at all [to recreate sounds]. You have this instrument with its own nature and history, but I don't see any point in recreating. We have time, why not use this time to invent something? Newness is really hard to define, but that is the ultimate goal for me... (2010)

Chavez, as Makino and other artists interviewed, focuses on what the artist perceives as the development of an idiosyncratic performance practice, a desire to create something new. Chavez is connected to the turntable tradition as a former DJ, yet is quick to set herself apart. It seems contradictory, but there is a connection to a group, or in the case of Chavez several groups (turntablists, electro-acoustic improvisers), yet in the midst of identity with these groups there is a desire to keep her personal practice highly differentiated from the same groups. This is illustrated in the decision early in her development to avoid listening to other artists working with the instrument of her choice. This seemingly conflicting combination of belonging and setting-apart is one of the interesting characteristics of the improvised music community in general, in that there is a great emphasis on identity with a community, but on being an individual as well.⁷

This contradiction can also be seen in the description when musician Olivier di Placido describes what he does:

Table top guitar, prepared guitar, I was doing this for a long time. I now try to change, to go out of this. These categories have become traditional experimental guitar. I'm trying to play it using my fingers, I don't know how to define it, name it: I would say guitar, but it is not the normal guitar, it is on a table top, it is prepared...but it is not those things. I have this unscrewed neck, it gives me electronic like effect with natural, natural pitch, but sounds electric, this tremolo effect with just the strings. If you want to play a classical riff, the guitar is broken, but I can do what I want with it. (2010)

⁷ But there are, as with Makino, a more purely focused goal by some artists on invention and newness outside of traditions, which is a tradition in experimental music.



Figure 2.7: Olivier di Placido in his apartment in Berlin, August 28, 2010.
Photo by Jeff Kaiser.

I was unfamiliar with the French musician di Placido's music before wandering into Madame Claude's night club in Berlin's Kreuzberg borough on August 23, 2010. The neck of di Placido's guitar was "broken" (another example of that concept), really an "unscrewed neck" that allowed the guitar to be folded in on itself as it is played. di Placido rapidly twists the guitar neck, bends it, attacks it with his fingers and different tools creating a blur of motion and sound, with stunning electro-acoustic music being wrenched out of the guitar without any further signal processing beyond the amplification. And in his own description, di Placido—as did Chavez—connects himself to an identity with other table top guitarists, but differentiating himself as well, listing similarities but stating that what he does, "...it is not those things."

This desire to differentiate can possibly be linked to the influence that modernism still holds on us as artists, as Bindas writes, "Modernism, as a cultural

manifestation, rose up to challenge the loss of individuality resulting from modernization” (2001). In the first page of his treatise on improvisation, author and improviser Gary Peters refers to improvisers as “heirs to a modernist aesthetic (or ideology) of innovation and novelty”(1) and connected to ideas of genius, as expressed by Landgraf,

...the association of improvisation with inventiveness is not only a modern tradition, but also a Western...closely linked to concepts of agency and expressivity that originate from eighteenth-century notions of subjectivity and genius. (7)

Ideas of novelty, innovation and the importance of the individual genius can also be in conflict with what improvisers are saying and doing, i.e., prioritizing concepts of lineage and community. There is also the possible conflict that the music might not be as innovative and novel as the musicians thought, but more closely related musically to others in the group being identified with. This can become apparent when artists align themselves with historical practices of the past, and yet might not listen to contemporaries. When rejecting possible influences of contemporaries, there is always the risk of missing connections, seeing how what you do as an artist can be linked to a larger phenomena.

This idea of the primacy of the individual has gone out of favor in many discussions on art and music, as the individual is decentralized in works such as Howard Becker’s *Art Worlds*, where creativity is viewed as more of a communal effort. Many texts that have been written on, or at least partially about, improvisation include a discussion—often, but not always, celebratory in nature—on the role of

community in improvised musics. *The Other Side of Nowhere*, *AACM: A Power Stronger Than Itself*, *Jazz Cultures* and the *Arcana* series, where the chapters are written by a broad group of musicians tied together by Zorn's communal idea based on the historical moment of "this generation" (2000, 2).

The tension between the two views of identifying as part-of-a-group and identifying as different-from-the-same-group seems to imply that improvisers are holding multiple conflicting viewpoints simultaneously. But in the interviews, it comes across as more of a negotiation between those viewpoints. Rather than the glorification of the individual genius subverting ideas of community, it seems to be more a discussion of individual agency and collective agency working together to create a musical identity that is not fixed, but is always changing. David Ake has addressed what I believe is a related tension/contradiction in jazz musicians and their relationship with history: a recognition and an acknowledgement of tradition and the constant changing of that tradition,

we should see and hear these musics [jazz, in Ake's case] as enabling new relationships among players and listeners, historical and contemporary, presenting different visions of past, present, and future...To be sure, how we understand jazz implies a lineage to a cultural past...tradition is not an artifact left from the past—a listing of previous players and styles—but a continuously shifting enactment of what and how counts, for whom, and why. (175)

I believe there are several other unarticulated tensions present in the interviews: one between the multiple roots of electro-acoustic music, and another in the multiple roots of improvised music. There are definite lineages traced through

Western art music experimentalism and African American improvised music practices in the interviewees.

These two practices—as written about by professor, author and musician George Lewis—have dramatically different conceptualizations and language used to describe music that is improvised. In his essay, *Improvised Music after 1950: Afrological and Eurological Perspectives*, Lewis specifically examines tension in the conceptualization of these practices by their practitioners, in particular, the exnomination of Afrological views of improvisation by Western experimental composers and performers as they began to add “real-time music making” to their practice. The world-wide dissemination of improvisatory music in the form of bebop undoubtedly, according to Lewis, “resulted in the emergence of new sites for transnational, transcultural improvisative musical activity,” an activity whose influence was “dismissed” and denied by many composers and practitioners in the growing experimental music world,

Moreover, texts documenting the musical products of the American version of the move to incorporate real-time music-making into composition often present this activity as a part of “American music since 1945,” a construct almost invariably theorized as emanating almost exclusively from a generally venerated stream of European cultural, social, and intellectual history—the “Western tradition.” In such texts, an attempted erasure or denial of the impact of African-American forms on the realtime work of European and Euro-American composers is commonly asserted... (92)

It seems self-evident that the historical tension between these two practices would also be present in individuals who trace their personal practice through both

lineages—as do many of the practitioners interviewed here. An example of this tension is found in the interview I conducted with sculptor/visual artist turned musician, Lesley Flanigan. Throughout her interview, Flanigan is quite comfortable with referring to what she does as improvisation, but she is not so ready to accept it as a category for herself—even though she has great respect for those that do,

I struggle with that [categorizing herself as an improviser]. I have friends that are skilled composers, other are skilled improvisers... When there is such mastery over improvisation it doesn't matter if it was written or not, or if it is a poor instrument. All the wrong notes, all the wrong sounds, but when you have complete physical control it just doesn't matter. When you know your instrument well, you treat it like a real relationship and let it be itself and work with it. There's a lot of baggage and history that comes with [the term improviser] that I'm not sure I'm in a place being able to own that history. I do what I do. It took me forever to just call myself a musician. I use improvisation. But improvisation as a style, or genre, there's a lot that goes with that, and I'm not sure I'm in that category. (2010)

This tension can also be seen within artist statements that wrestle between ideas of chance (a term preferred by certain American experimentalists in the 50s and 60s) and ideas of improvisation, a tension I believe can be revealed by looking at ideas of agency, at which point conceptualizations such as chance change in nature.



Figure 2.8: Lesley Flanigan in the studio at STEIM, August 7, 2010.
Photo by Jeff Kaiser.

Another recurring aspect of the artists' description of what they do is that the act of building the instrument is considered an essential component of their performance practice. Flanigan, when asked to describe what she does, started with a description of building,

Currently, I build my own speaker feedback instruments. I have a piezo microphone that's suspended over a speaker and they are connected through a small amplifier circuit. How I position the piezo, changes the tone and rhythm of the feedback. I have several of these speaker instruments I built that I perform with. I capture their tone and rhythm and sing with them. Speakers are traditionally used as a means of amplifying instruments, I use them as instruments themselves. [Also using a vocal mic to capture those sounds and her voice.] The majority of the music is improvised. I do some of what I call composition by choreography, where I figure out physically how I will interact with the instruments and decide beforehand that I'll do ten sweeps over the instrument etc. I might map out a kind of choreography that will affect the arc of the performance. But it's all up for grabs, because the nature of the performance is definitely

improvisation, if I touch upon something that needs to be explored further I'll go with it. (2010)

In the interviews there is a common theme of building instruments as an important part of the performance practice of these artists, and this aspect is a dramatic change in the conception within Western art music traditions. In regards to physically constructed instruments, Yehudi Menuhin did not build his own violin, nor did Louis Armstrong build his own trumpet. Armstrong and Menuhin certainly had roles in design adjustments, but the instruments were made elsewhere by somebody else, sometimes in a distant past in the case of violins. But now many of the performers are intimately involved in the construction: personally selecting materials, fabricating, assembling...an intimacy that most concert pianists, for example, would never have.

This knowledge, familiarity, and again, intimacy, inform a special relationship with the instrument for the musician/builder that extends beyond training on an instrument: the creator has seen the movement from conception, to model, to refinement, to performance. To use a worn out metaphor, it is a birth. Where before there was not this instrument, now there is, but there is no *ex nihilo*, it is always out of something. The instrument emerges out of a conceptualized practice, of ideas sourced from community, tradition and the individual artist imagining what they want to do and how to create the means to do this.

In the case of Flanigan, there is a history of speaker feedback as music. Reich's *Pendulum Music* (1980) comes easily to mind and even comedian Luke Larsener's suit of microphones which he wears while walking into a room full of different

speakers (2007). Flanigan's music differs, in that she works with the speakers, in a way that is informed by her knowledge of the instrument system she has designed. She knows which speaker instrument behaves in a certain way, some she says are better at solos, and some better at accompaniment, some at melody, some at rhythm. This knowledge is created systematically as the instruments are built and then used in rehearsal. Knowledge gained in rehearsal and performances informed her building choices, which then informed her performance practice, which would then modify her building practices.

There is a relationship that is a continuous feedback loop, not broken as it would be if tasks are passed between performer and builder. Both conscious and unconscious, articulated and unarticulated ideas are incorporated as they remain in the loop. This is quite a drastic departure from Pierre Boulez's construction of the composer needing to learn to talk to their technologist as perceived as "a mage begging for help from a plumber!" but as he continues, "In the end, musical invention will have somehow to learn the language of technology" (490-491). Ignoring the hierarchal views present in the terms *mage* and *plumber*, there is something more to be learned than just the "language of technology," there is an intimate physical knowledge that comes about through the building process that goes beyond language.

Joel Ryan also starts with a description of an instrument he has made,

I think of it as giving a new instrument to the musician, but in a more radical way in that it is trying to recover that moment you first pick up the instrument: the magical "thing," that as you play longer and longer you lose. It is trying to restore that. It works as it is not threatening, it does not replace their virtuosity, it is kind of remapping

their instrument, allowing the acoustics to be redefined. I'm not playing with their cultural attitudes about the instrument, I'm playing with the physics of the instrument. Turning something familiar into something unfamiliar in the process. It is two people playing one instrument. My hands are on his hands, his hands are on my hands, the instrument is tangled up in two peoples physical behavior. There are not a lot of cooperative instruments, so it is unusual. (2010)



Figure 2.9: Joel Ryan in the studio at STEIM, August 3, 2010.
Photo by Jeff Kaiser.

Ryan makes and performs his own software/hardware based instruments which he uses to dynamically process the sound from the instruments of live performers, as well as other performers with electronic instruments. For Ryan, the goal of building the instrument—and then the use of it in a performance environment—is to create an experience that replicates the first contact, excitement and wonder, usually experienced by children when they first start to play a musical instrument. As Makino stated, “Newness is really hard to define, but that is the ultimate goal for me...” The creating of a new instrument is important, because it is only through the unfamiliarity

(because of the newness of the instrument) that the experience of first contact is brought forth. This joy in newness is characteristic of many of the artists interviewed. With EAIM, the newness keeps reawakening the excitement, the joy of sound exploration, but not only sound in the sense of timbre, but musical form.⁸ When Ryan speaks of “giving a new instrument” he is physically a part of that instrument, as he is playing it. The system he puts in place requires action on his part, so it becomes, as he states, a “cooperative instrument” that includes him as part of the instrument, but is also being played by him and the musician he is processing, a very complex relationship.

Much like a novelist who writes characters into existence, software author and musician Gregory Taylor writes his instruments,

I write software instruments, a collection of routines that I use in a variety of contexts, both solo work...and performing with other people, an opportunity to commune with people and be surprised in ways I could not surprise myself. What that's transformed itself into over the years is a career as an improviser, a discourse which frankly, I never thought I'd be in. It's been my relationship with my making software that led me down this path, not a desire to be a part. That, and I decided I wanted to play music with people I really like...My sound is informed by what other people have done, as much as I would like to create a personal narrative. Aristotle was right: mimesis is important. I was interested in not only making the processes, but also an acoustic world I was comfortable with. Making your own raw material makes you sound different from anybody else. My universe is well-circumscribed, and I just add bits here and there. (2010)

⁸ This joy of newness can be contrasted with misoneism, a hatred of the new, or as is more gently phrased by musician author Nicolas Slonimsky in his *Lexicon of Musical Invective*, the “psychological inhibition, which may be described as Non-Acceptance of the Unfamiliar” a condition that is present in many traditional critics and audience attenders, and musicians (2000).

For Taylor the *making*, or *writing*, of the instruments (which for him are processes)—like the other artists—cannot be separated from his practice. Taylor’s practice would not exist if he did not build, in the form of writing, what he plays. Whereas he states surprise at being in the improvisatory discourse and his conversation is frequently filled with self-deprecatory comments, Taylor at other times is very comfortable with his identity as an improviser, and is one of the few artists I interviewed that references non-Western traditions and the role they played on his musical identity, in particular, the music of Indonesia,

...this is my formal background. When I discovered the performance technique I felt at home, because it was communal. The inner melody construct, that nobody plays it, but it appears when people play communally. The auspicious way to began a performance is to share a meal. I found myself in this practice discourse thinking I was more at home, comfortable. And that mistakes are not connected with negative sanction. There isn’t exactly a social practice for what is correct and precise, though you can hit a gong late and that is really bad, but the whole business of thinking about music is different than what I had learned. It makes mindfully thinking about what you are feel different. I think that was why I gravitated to electronics, the space in which I could work resembled the space in Indonesian music in which I was comfortable. (2010)

Unlike many computer-based musicians—such as those referenced earlier by Zicarelli and Ostertag that make timbral explorations the primary focus of their music—Taylor is not one to avoid pitch and rhythm. In the processes he sets up on his computer, you can hear the influence of his past as a performer of Indonesian music, his incorporation of tuning systems distinct from Western temperaments and overlapping pulsing rhythms that run in and out of synchronization.

Even though the focus of this study is on improvised music, composition frequently comes into the conceptualization by those interviewed. Alex Nowitz said,

I compose...that is one track, the other track is performing. I've been performing as a vocalist for twenty years now and I'm also involving live electronics into my vocal performances...Improvisation is the perfect link to learn from each other..for the composer to learn about performance aspects but it's also for the performer to learn from the compositional aspects...to my understanding of music creation nowadays it is necessary for the composer to be an improviser or to at least have some skills and knowledge of improvisation aspects of music. On the other hand, the improviser needs to have some skills in composition skill in methods and strategies, otherwise you're stuck... (2011)

Singer Alex Nowitz clearly articulates the value of both improvisation and composition, and does not see them at odds with each other, but in dialogue where each informs the other and keeps each other from becoming fixed, or as he puts it, "stuck." Nowitz's practice grows out of his training as an operatic tenor, but incorporates new technologies and performance strategies that embrace improvisation.



Figure 2.10: Alex Nowitz at the Krazy Coyote in Borrego Springs, California, May 22, 2011.
Photo by Jeff Kaiser

For many interviewed, poetic metaphor is used in the description of what they do as musicians. Zachary James Watkins views his music as “dance music,” but it is not dance music in the sense that humans will dance to it. (Though they might.) His idea of dance is a metaphoric understanding of the way which the sounds themselves interact with each other. They dance, a dance that he further illustrates as being about the way frequencies “beat,” an acoustic phenomena where certain frequencies when played simultaneously create the sense of a pulsing of the volume which is heard as rhythmic pulsing. Watkins views this relationship of frequencies in his music as a dance. As a lecturer in music technology at UC Santa Cruz, Watkins knows the language of technology and can use it. But instead of speaking of equations and theorems (certainly a type of metaphor) he chooses the metaphor of dance. This metaphor focuses on the interpretation of the experience of music, the

conceptualization of “dance” (a metaphor of physical activity in this sense) is part of his goal in creating a “visceral sound experience” for the audience, as well as himself.

Fundamentally I think of what I do as dance music. Relationships with intervals, I’m really interested in how different physical phenomena of sound interact with each other. It is improvisation. I’ll have ideas that are more about the experience of the music than being able to necessarily talk about it within a framework of some kind of theory. But as I continue to research, there are theoretical threads I’m working with. But I’d say it’s dance music, it is about the inherent frequency and beating that occurs in all sound. And it’s about the experience of the music, I try to create a visceral sound experience. It is both about the rhythmic element of interval and of pitch. (2011)



Figure 2.11: Zachary James Watkins in his studio, Berkeley, California, August 24, 2011.
Photo by Jeff Kaiser.

In contrast to the American experimentalism, or “‘American Music Since 1945’ construct” idea of the composer-as-researcher-that-doesn’t-necessarily-need-an-audience, a view that is still prominent in many contemporary music practices, artists interviewed here emphasized experience for themselves and the audience. Poetic

metaphor was one way of communicating this idea of experience. Chavez clearly states her appreciation, and desire to create an experience for her audience, and the transformative value of this performance experience for herself and the audience. Chavez, as do the other artists, also sets apart the musical performance as time that is differentiated from regular daily experience,

People offer me their time to sit down and to listen to my ideas...I take it really seriously...I feel like when it's time for me to play I'm outside of my mind and then I'm just focusing on us and creating pieces that we all find interesting sonically and also in idea...[This idea] has completely changed my entire life in every single way. But, especially when I perform now, I'm realizing more and more that my pieces make themselves now. I have absolutely no control. I am just a machine and chance is the only—chance is the sound. You know, what I mean; it has nothing to do with me anymore. I feel like I've come to a point where I can let go and not listen to the thoughts in my head and actually just allow the present moment to exist and to be in a way like a vessel where the energy just, kind of, moves and the choices make themselves. I am no longer involved with the choices. So, after a show, if you come up to me and say, "Oh! You remember when you did this at that part?" I most likely will say, no, because I'm not conscious when I make the choices, the choices just happen and I just move with them... (2010)

There are two special characteristics of Chavez's description, first, her concern for her audience ("I take it really seriously"). The second is her very clear clear description of an autotelic experience that I will examine in Chapter 4. As with many of these artists, we see the relationship of technology to identity, and identity to the system, of what Chavez does, when she says, "I am just a machine..."

I'll close this chapter with an examination of how Nels Cline's beginnings are closely related to a specific technology:

I started out playing...electric guitar to be cool and rock and rolly. I was completely enchanted of the sound from the beginning...[In the 60s] you'd hear artists with big amps and big sounds and just go "wow." Fuzz boxes and wah-wah pedals were just sort of emerging... my twin brother and I were intoxicated by fuzz boxes, we'd collect albums with fuzz box solos, any kind of distortion. A combination of these sounds and the advent of records, songs, that are recordings of performances but produced to have certain effects, so, in other words, psychedelia...was obviously important because it was a sonic event that you could repeat over and over again...

I think that the combination of these produced, sonically exciting, recordings and the advent of just electric guitar music, or electric music in general, has informed my methodology in the use of in some cases very conventional effects pedals, and some things that are used for DJs and pure noise...I've never liked that term noise, in my day it meant some kind of inarticulate racket...noise to me isn't a particularly articulate word. But that's the thing I've been trying to do—with effects pedals, with delays, distortions, modulation pedals, phase shifters, vibrato, any sort of filtering—is probably mimic the sounds I've heard on produced recordings, mimic the sounds of other instruments, or somehow refer to an effect or a sensation that we maybe can only loosely describe as an event such as putting your face in a blast furnace or having the world blow up in a ball of flame or having 4000 ghosts rise from a cemetery and shriek by your ears, things that are drawn from the imagination, sound effects, orchestral music, microtonal music, I can use harmonizers to detune my instruments and mimic chord clusters to get away from conventional overtone series. I'm trying to broaden the palette of one instrument, I feel like the guitar is malleable, very flexible and it also has great currency in our culture.

So I'm lucky to be able to walk in and out of these different musics using familiar language, familiar textures, familiar harmony and also draw upon my imagination...for expressive effects...I like to own... what other guys in high school used to say about Hendrix...it was Jimi Hendrix that galvanized me in one fell swoop made my life's path clear to me. There are these guys in my junior high school that would have these arguments, they'd ask me who played better, Page, Beck or Clapton and I'd say "Hendrix!" And they'd say, "Gimmicks!" Because a lot of people didn't take him serious because of his

flamboyance...use of feedback...he turned it into an expressive component of his music and he had a mastery that no one else thought of, let alone done....Vinny Golia left an old tube echoplex he wasn't using in my apartment...I had already imagined what I would do with all these effects...I pulled out my old fuzz box...the intensity some time scared us [my brother Alex] to death...it became at times sonically so overwhelming that we thought we were going to disappear. It's all Vinny's fault...it started me on the path to...electronically altered guitar...To this day I think of the guitar pedals...as the color on a palette. People think that I use so many effects, well, a lot of people do...if you feel a need or desire to do something, do it. If I need a color or emotion, I just go for it. I'm not just making it up. I do go for things that are part of my vocabulary, are a particular color. (2011)

In this excerpt we can see how if you remove the technology (many different kinds of guitar effects, phonograph) out of Cline's description of what he did, you would have a dramatically different musical identity, as well as sound. The effects pedals are so fused with his beginnings and his continued work, that they are an irreplaceable part of his musical identity, even as he states "Those effects didn't tell me to do that, I made them do that by turning them on in a in a certain way in a certain sequence." An interesting view of agency that will again, be taken up in Chapter 4. Cline's conception contains the elements of Paul Gilroy's concise statement about identity, "Though it is often felt to be natural and spontaneous, it remains the outcome of practical activity: language, gesture, bodily significations, desires" (Gilroy 1993, 102), i.e., Cline's activity, musical desires, musical goals and language about what he does as a performer create his musical identity.

In conclusion, as we examine the musicians' descriptions of what they do, we can see a few common conceptions, many that are not unique to this music in

particular, but a few that show changing conceptions as musical traditions merge with contemporary idiosyncratic practices, and artists work to articulate these practices.

First, we see that for the artists interviewed: improvisation is connected with musical identity. All of the artists interviewed were selected because they self-identify, or are connected to, improvisational musical practice. The discussion of improvisation was interesting because there did emerge tensions between different schools of thought—and categorical/genre inferences—on improvisation. Nowitz's interview, however, articulated what also seemed to be a common thread, that performance and composition are in dialogue with each other, mediated by improvisation.

Second, we see that technology is connected with musical identity. Artists were all selected to be interviewed because of their use of new or repurposed technologies, so it is not surprising that technology played a role in their identification and descriptions of their music. This discussion is also about the role of technology in their music, which varies from being treated: as chance, as participants in the music making, or things that are controlled by the performer.

Third, instrument building is associated with musical identity in many of those interviewed. Building, in this sense could mean “writing” software, creating complex arrangements of extant hardware or a combination of the two. It can also be a disassembling and repurposing, or the actual design and fabrication of an instrument. This was an important element in all the interviewees description of what they did, sometimes explicitly stated, sometimes described without explicitly stating.

Fourth, the sound of malfunction as a concept and description is forefronted by many of the artists in their interviews. There is a history of this in experimental music since the industrial revolution and it is also a part of other contemporary practices such as glitch music as well as used in popular music forms.

Fifth, identity with a community and/or tradition is important, but at the same time the artists are embracing what they perceive as an idiosyncratic or personal practice differentiated from that same community. Communities are made up of individuals, but there seems to be a strong element of individuals within this music that desire to be seen as not the same as the community. This I believe arises out of ideas of the fixity of communities and traditions. Communities and traditions can serve as conservative forces working to perpetuate certain practices, but of the multiple streams of influence in EAIM, two of the most-discussed by the interviewees are experimentalism in Western art practices and in African American improvisatory practices: both practices acknowledging that traditions are active and changing.

Chapter 3:

Intersecting Desires: Exploration, Extension, Freedom

In this chapter I will discuss the ways in which the interviewed artists conceptualize what they find compelling and desirable about this music, what is driving their work in this music and possible explanations as to why they choose to perform this music over other types of music. The answers at first seemed predictable: interviewees said they simply enjoy the music. Liz Albee bluntly says, “I’m really happy when I’m making up songs.” Gregory Taylor speaks of “joy” in his interview, and feelings play a strong role with others. This is the historic drive of so many musicians: they derive pleasure from their work: musicians working in EAIM are no exception. But when pressed, other elements would emerge: not only ideas of

augmentation, pleasure and enjoyment but also the exploration and surprise afforded by technology and improvisation; the increased musical vocabulary and instrumentation, including the ability to create what they perceive as a unique musical identity; the ability to multiply one's own sound and/or create an ensemble with the technology; technology as compensatory for the lack of training in a traditional instrument coupled with a performative drive and, finally, concepts of freedom originating in ideas of improvisation and electronic music.

In the discussion of the motivations behind the making of this music other questions arose such as: is the traditional toolkit of musicians exhausted? What do the artists mean when they use the word freedom? These ideas of freedom had new elements to them, but at the same time had many aspects related to ideas of the role of the uniqueness/individuality/etc. of the artist discussed earlier. This can be contrasted with the artists interviewed not mentioning being driven by a sense of community and there seemed to be little explicit community social function to the music. In general, it is not music that was made to celebrate certain dates of the year, stages of life, weddings, funerals et cetera, though the music certainly is part of festivals and an artist scene, particularly in large cities such as Berlin, Los Angeles and New York.

One of the primary reasons artists interviewed working in EAIM make their music is simply because they enjoy it: however, this sense of pleasure for the creators might be confusing for some outsiders who enjoy more widely popular musical forms. In the words of Maria Chavez, her sound can be “very raw and a bit abrasive,” or Anne La Berge, “...I can make a full range of sounds from noise to pitched.” These

terms, such as “noise,” “raw” and “abrasive,” while being embraced by the musicians in this field, can have negative connotations for those outside of the field. Terms such as “noise” are comparative and draw upon reference points determined by a particular music culture. As author Paul Hegarty writes in his introduction to *Noise/Music: A History*,

Noises are sounds until further qualified (e.g. as unpleasant noise, loud noises, and so on), but noise is already that qualification; it is already a judgement that noise is occurring...Noise is not only a judgement on noises, it is a negative reaction, and then, usually, a negative response to a sound or a set of sounds. (3)

But as Hegarty continues, “Noise is cultural, and different groups of hearing machines [human or otherwise] will process sounds differently,” and EAIM is a musical culture that embraces sounds that are considered noise (in the negative sense) by other musical practices.

Zachary Watkins illustrates the appetite many of the interviewed artists have for sounds that might be considered noise, as the clattering, cyclical repetition of circuits storing, then releasing their energy in a burst of sound is one that invigorates Watkins. Even when artists are uncomfortable with the term noise—such as Nels Cline, “I’ve never liked that term noise, in my day it meant some kind of inarticulate racket...noise to me isn’t a particularly articulate word”—they still use the term in descriptions of what they do: and draw pleasure from music they describe as noise.

Noise, then, occupies an uncomfortable ground for musicians between the negative meaning in common usage and use as a category and genre that usually

features, as Joanna Demers writes, “distortion and loud volumes” (172). (Although, noise music, can, be low in volume while also being distorted.) This uncomfortable ground, is dismissed in some discussion because of the ubiquity of sounds that might be called “noise” in experimental music. Noise has many meanings in many different settings. Noise is a genre, a scientific descriptor of sound (white noise, brown noise, pink noise) and a negative descriptor of disliked sound. Noise as a negative musical descriptor can be a non-issue for many experimental musicians because of the ubiquity of sounds used within experimental music that differ from many traditional musical sounds. Due to this difference, the sounds are described as noise by some people. In regards to the idea of sound, as Douglas Kahn said in a discussion at University of California San Diego, “Ultimately, the discussion of what is noise, or is not noise, is not very meaningful in terms of experimental music” (2010). Experimental music is one that is constantly exploring, examining and questioning cultural presumptions about music (such as noise) by—as the name implies—experimenting and looking for new and different sounds, as well as forms.

The use of a wide spectrum of musical sounds, some traditionally perceived as noise, becomes a major part of why interviewed artists find EAIM compelling: that there is an expansion of sound production techniques (some artists refer to this as vocabulary) of the chosen instrument made even broader by the introduction of sounds previously considered taboo in the traditions of the specific instrument and music. In the same way La Berge sets up a spectrum “from noise to pitch,” violinist Thea Farhadian articulates this expansion of the spectrum of sounds available saying, “It

[the computer] opens up a vocabulary that I would never be able to get with the violin alone.” Beyond the idea of discovered techniques on the traditional instrument, the computer brings something itself: sound affordances that can move into territories, both familiar and unfamiliar, that might be referred to as noise due to the difference from the traditional sounds used in comparison.⁹



Figure 3.1: Thea Farhadian in her studio, Berlin, August 19, 2010.
Photo by Jeff Kaiser.

Singer Alex Nowitz discusses the idea of expansion, saying,

The most interesting part is I now have the possibility to extend the voice even more than I usually did anyway. I’m constantly interested in extending the voice and using extended techniques, while doing that to expand our horizons. Using the live electronic element I’m able to extend the voice on a more abstract level, whereas the analog

⁹ I also believe the idea in common usage of extended technique is a misnomer: these sounds and techniques are all inherent in an instrument and brought out in the relationship with the artist. To label it as extended is to view the instrument from the specific limits of a cultural perspective, in this case, privileging the traditional WAM affordances as normal, and others as extended. However, the term “extended” is used commonly by musicians, including myself in the past, so will be used here.

way is very concrete. Because the voice is very concrete material, it bears a lot of information, a lot of emotional information and that is something I can alter and I can manipulate with the tools of the live electronics. (2011)

Although some artists are working to exclude traditional ideas from their music replacing them with other techniques, Nowitz does not see expansion as replacement, but as an addition that is beneficial by increasing available sounds. For Nowitz, the voice as “concrete” can connect and transmit “emotional information,” information that the audience can relate to through the shared understanding of the voice. The electronic element can take and push that emotional resonance further into abstract sound areas, bringing the listener along while linking their concrete understanding of the voice with a sense of exploring the new. In Nowitz’s conceptualization, the listener will go to these new places because they remain connected through the understanding and connection with what is familiar: the voice.

Sometimes the expansion of available techniques can be as simple as volume,

I use to tell the story that I wanted to play with guys, and guys play so loud that I needed amplification. And that story still holds true in many ways. And I also like to play with people that use electronics, and in that case, I need to be loud enough to be heard and with amplification some of the more interesting sounds of the flute can be heard, some of the more intimate sounds without amplification simply are not audible. (2010)



Figure 3.2: Anne La Berge in her home, Amsterdam, August 1, 2010.
Photo by Jeff Kaiser.

La Berge was the only artist interviewed to bring up specific issues of gender, framing “guys” as loud and the need for her as a woman flute player to keep up with them in volume. La Berge’s quote reminded me of composer, electronic musician and accordion player Pauline Oliveros quote where she was writing about the early days in the San Francisco Tape Music Center, “Though well meaning, the ‘boys’ were not necessarily helpful...Men have a way of bonding around technology. There seemed to be an invisible barrier tied to a way of treating women as helpless or hapless beings” (Bernstein 2008, 88). The amplification, in the past, provided La Berge the opportunity to “be loud enough” in a musical environment that was constructed by males as loud. However, La Berge later retells the story to be about just playing “with people that use electronics” that tend to be loud, removing gender associations and making it about the genre.

Amplification also affords La Berge the opportunity to more clearly hear the microsounds of an instrument: small sounds that otherwise might not be perceived by the audience due to their low amplitude. This, for La Berge, can include the clicks of the keys or the sound of the quiet breath resonating in a wind instrument without sounding a note. For a string player such as Farhadian, this can also be the isolation of a single bow hair exciting a string, or for Nowitz, the compressed sound of soft glottal fry¹⁰ in a voice made booming in a concert environment.

The expansion goes beyond timbral and dynamic affordances to include rhythm, pitch and harmony: EAIM also can be seen as *multiplying* options, even creating ensembles. These ideas are something that is compelling for Pamela Z,

I'm a loner, I have a lot of ideas, and I want to flesh out my ideas on my own...the electronics gave me this ensemble allowing me to make all these layers...[my first digital delay] changed my whole way of thinking about sound and of working with sound. (2011)

¹⁰ The popping, crackling bubbling sound made by air moving slowing through the vocal chords.



Figure 3.4: Pamela Z at the home of Bonnie Wright, San Diego, March 13, 2011.
Photo by Jeff Kaiser.

From player pianos, steam-driven musical automata, the orchestrion, organs with trumpets and zimbelsterns, pipe and tabor, to one-man-bands such as blues musician Dr. Isaiah Ross and the multi-saxophone music of Rahsaan Roland Kirk, the idea of having an instrumental ensemble available that will do what you want it to do, when you want it to do it goes back through the history of music. An individual instrument can offer great complexity of timbre, but that complexity when other timbral sources are added increase manifold.

The computer/software combination offers something similar, but different, to the one-man band in that it can be a playback mechanism, but it also allows an interaction with the live performer. It can sample (record sounds) and modify them live, it can be involved with musical decision making through algorithmic processes, it

can also, as in the above, bring multiple varieties of instruments under the control of the computer or performer.

This multiplication and extension allows musicians whose primary instrument is their voice, such as Pamela Z and Alex Nowitz, to act as a choral ensemble and it frees them from being dependent on other instrumentalists: they can add percussion sounds, harmonic instruments and other voices. There is also a release from the complex management of scheduling musicians to rehearse and perform that allow a self-identified “loner” as Pamela Z to freely explore ensemble ideas alone. With experimental electro-acoustic improvised music the computer is a means to break out of rigid conceptualizations of the role of instrumentalists and voices, allowing Pamela Z and Nowitz to explore new areas of sound, or as guitarist O’Brien said, “I could suddenly sound like the Frank Zappa Band, just one guy.”



Figure 3.5: Keith O’Brien performing in his studio, Berlin, August 20, 2010.
Photo by Jeff Kaiser

In addition to the expansion of possibilities, the exploration of sound remains one of the primary compelling aspects of EAIM for the artists interviewed. As scholar Paul Théberge writes, “The search for a new music and the technical means with which to express that music has preoccupied various quarters of the musical avant-garde ever since the dawn of modernism” (157). Zicarelli and Ostertag as stated earlier, believe that the exploration of timbre has been a driving force in the (relatively short) history of computer music and the computer has certainly become what Edgard Varèse and others were searching for: a sound-producing machine. But the aspects of sound accessed by the artists interviewed go beyond timbral as already illustrated. Many of the artists would consider themselves and their acoustic instruments as the equivalent of sound producing machines with a large variety of timbral availabilities. But most of the artists interviewed would not say timbre is the only force, and these artists are moving beyond that conceptualization.

The reduction to timbre as being the primary force by Ostertag and Zicarelli, and the searching and finding of Varèse’s sound producing machine to set sound free from traditional acoustic sources might pertain to certain practitioners still, and remain what Théberge describes as “the guiding ideology of the avant-garde” (157). But for most of the improvisers I interviewed, there are many other factors of music that the computer enables them to explore that go beyond ideas of timbre. Watkins discusses not just the timbre, but the world that electronics enable him to create,

What it does is allow me to create my own world very quickly...being someone who likes to dissect sounds, electronic instruments are built upon the the very ability to build from the most purest sound grain

which would be a sine tone and then develop something out of that. So I feel like it is an open canvas... This type of music is improvised, it is electronic in its instrumentation... it's extremes, it's about the highest pitch, the lowest pitch, the loudest volume, the quietest volume, it's dense, sparse, and creating a narrative through all those different landscapes... those extremes and those boundaries.

This music is very personal. It comes from years of thinking, and listening, and interacting with other thinkers, and sitting with these experiences that are moving for me with the works of others. I feel like I'm definitely part of a current atmosphere, I think that this is something that is a global community of people exploring very personal music... That curiosity, that ability to start from scratch, to build what you want to hear whether or not it exists already is a big part of the creative work we make. I feel very free to build or make whatever I want... a dance of frequencies. (2011)

Like Albee earlier, Watkins moves into the sound via a process he describes using the metaphor of dissection, as if he is taking something living apart to examine and at the same time, expands the sounds outward with composition described with the metaphor of creating his "own world." While timbre is a part of his "world," Watkins also discusses pitch, dynamics, texture and interactivity with other musicians. Moving beyond those technical descriptors of aspects of the music, for Watkins, "world" is the best way to describe the complexity of the elements and the interaction of all the elements: he may set up the world, but in the world, the elements dance on their own. For Watkins, music is very personal and it is enabled by the technology. He can sit with his circuit boards and computer and physically explore sounds as timbre by shorting and rerouting circuitry, and then further develop those timbral processes into a set of techniques. These techniques are further organized and expanded into strategies of pitch, harmony and rhythm that he then shares with other musicians

through musical scores. Watkin's description of his creative process clearly illustrates the movement from personal to community, exemplary of "a global community of people exploring very personal music."

Similarly on the idea of sound exploration, Robert Henke, in his interview states,



Figure 3.6: Robert Henke, being interviewed on the rooftop of his Kreuzberg flat, Berlin, August 12, 2010.
Photo by Jeff Kaiser

I'm totally into sounds and this idea of being able to create a sound from scratch and exploring sound...I'm really fascinated by...lots of events going on at the same time. A sense of depth and sense of space. This is present in whatever I do. I really like music that you can feel there is something in the foreground, background, and even further away. This idea of a slow process. Techno music has this in common with drone and soundscape work, this idea of a slow process, an endless permutating state. It is not about a song structure, it is something different. I like being an artist, I'm very comfortable in this role. The whole social part is nice. I like the act of performing, it is

very exciting to perform for other people and get a reaction. But I also am very fond of technology. I feel I'm a geek, and enjoy it. (2010)

Henke, and other musicians interviewed, enjoy the density of sounds one person with a machine can produce. Dynamic placement of sounds within a dense audio field, can provide a sense of foreground and background that are a characteristic of his music, even in performances that are not using multi-speaker spatialization techniques such as surround sound or ambisonics. The rapid foregrounding and backgrounding of sounds that create the “sense of depth and sense of space” is possible with few sounds, but becomes more dramatically noticeable when there are multiples of sound such as Henke creates using granular synthesis. The attention of the listener is constantly shifted as the foreground and background change places, and the constant “permutating state” holds that attention. Like Watkin’s world, this “endless permutating state” is one that Henke sets in motion, but it continues on its own with perturbations introduced by a nudge of the slider, the twist of a dial, or the clicking of a button.

Many artists interviewed attest to the importance of improvisation in their exploration of sounds, as di Placido does, “Having fun, experimenting, objects, feedback, the pleasure of discovery, accident. Improvisation is a good medium to experiment.” As explored in the next chapter, in the Romantic era there was a conflation, by certain composers, of composition with the execution of the composition. This conflation can be seen as rupturing the relationship of the performer with the music by walling off the concept of exploration of the musical form and

creating a domain that was ruled by composers. This created a role for the performer that was focused on execution, as opposed to exploration. For improvising musicians struggling with the legacy of this aspect of WAM, the return and increased valuation of improvisation has worked to heal this rupture for many of the interviewees.

Keith O'Brien uses improvisation as a means for exploring and uncovering sounds. He states, "It's like you've discovered this hole and your rooting through it for various truffle-like sound objects, I spend all day sniffing around..." But this discovery is not limited to one musical purpose. As discoveries are made in his role as a performer, O'Brien might also incorporate them in compositional settings, not relegating himself to a singular role as performer.

The instability and unpredictability of some electronic systems used by O'Brien and others can add to the exploration by bringing in an agent of surprise. Albee says in her interview,

Sometimes with improvised music you want to be surprised...with the electronics that happens a lot more. I like the surprises, with electronics, it a bit precarious. Sometimes that's nerve wracking, sometimes it is beautiful. Being on the edge of not knowing is thrilling, and sometimes scary. (2010)

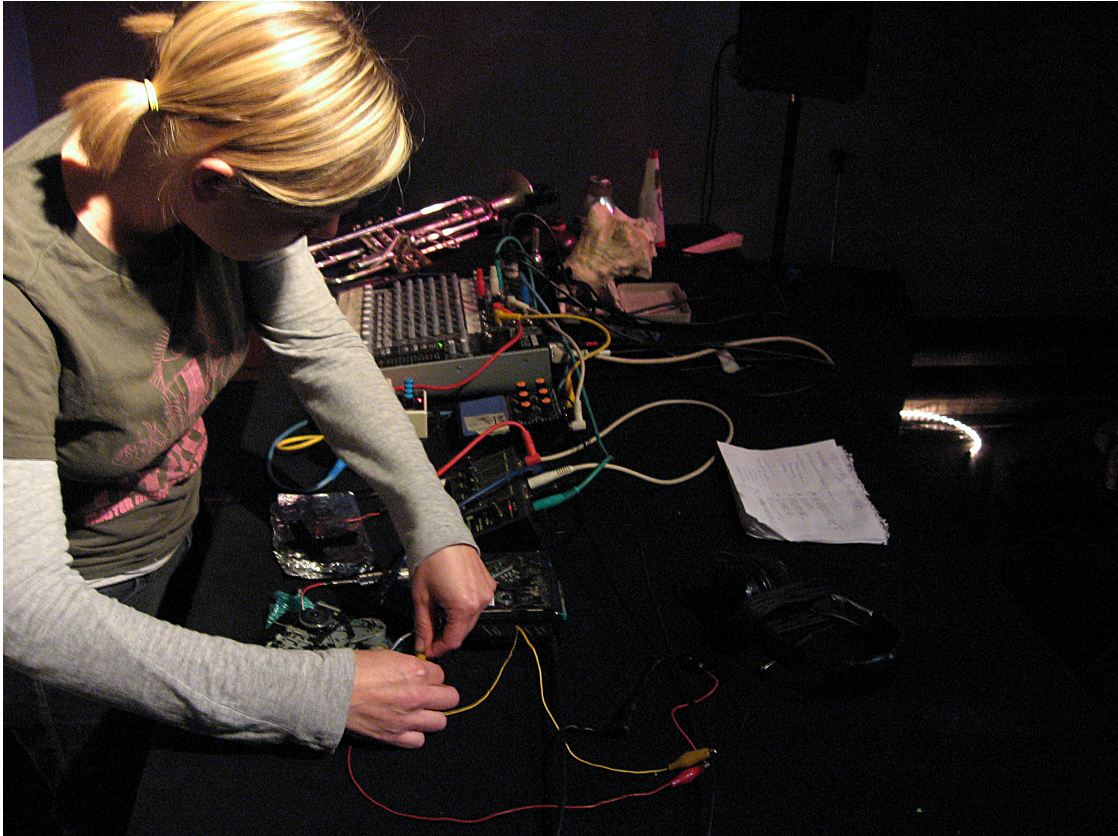


Figure 3.7: Liz Albee performing at Ausland, Berlin, September 4, 2010.
Photo by Jeff Kaiser

Exploration of the sound as an act in itself provides pleasure to the musicians, yet as illustrated, it also provides possibilities: possibilities for solo exploration, for introducing into improvisatory environments, installations and compositions. The artists interviewed for this dissertation desire creative options for their music and are vigilant in their search for unique sounds to add to their creative work. As Nels Cline stated, “In the terms of sound creation, why not...why not just have more possibilities? This is a great time for making sound. Whether it is digital or analog, or whatever, it just gets better and more interesting every second it seems like.” There is a drive to create something new to the artist, that the artist needs a constant stream of

new ideas and sounds that will then trigger other ideas and sounds in an ongoing feedback cycle of generation, and there is ultimately a sense of meaning and fulfillment that comes to these creative musicians from being a part of this cycle.



Figure 3.8: Nels Cline being interviewed at his house in Los Angeles, December 27, 2011.
Photo by Jeff Kaiser.

Henke, Lippit and several other artists stated that part of what was driving them to work with electronics was the fact that they were untrained in traditional instruments (Henke, Lippit), or that they didn't enjoy playing traditional instruments for various reasons (Ryan), or, in regards to playing traditional instruments felt their skills were "middling" (O'Brien) or they were just "bad at it" (Taylor). But these artists still had a desire, or drive, to create and perform music as it provides an "aesthetic reward" (Taylor) or "rush" (Lippit) and the use of electronic components

would also compensate for the lack of training in traditionally defined skills. O'Brien states this very clearly,

It's like a steroid [technology] and I'm such a middling guitar player. Well, I started out with rock, punk, speed metal...I moved into jazz as sort of a third division player, couldn't really cut it with the big dudes in Dublin...then Max/MSP...I discovered I could suddenly sound like Pat Metheny...it was a total surprise to hear that coming out of my guitar without the skill. I had very little sympathy with technology before, when I saw you could just rip things apart, an infinite way to screw things up...that's why it seemed interesting. I like stuff that goes nuts...The lack of ability to do anything else. It's kind of embarrassing. I can barely do this, I'm hanging on by my fingernails. (2010)

Lippit is also clear on this,

...I don't have any musical training so to speak. I've been self taught as a DJ and I don't have any, ultimately, education in a traditional musical way.

For me to realize ideas on the computers and sort of open-ended tools like Max/MSP that also have a strong community base and have a lot of resources on the Internet basically enabled me to realize things that I wanted to do at a fairly cheap cost and without institutional backing so to speak.

So that was my biggest attraction that it was very empowering for me to be able to—of course, there's a learning curve in the software or in any technology, but it was relatively quick compared to other practices that I could draft out ideas and I could build tools that were really unique for myself. I think that's the biggest attraction for me as a musician is that it's empowering and it's also a process that I could—it's become part of my musical process to figure out a relationship between this technology.

So, my music is always reflective on my struggles of my search with dealing with computers and trying to think about my performance with them.

I think it's the urge, or more of an addiction to perform, I think to perform in front of somebody that is definitely a rush or sort of a rewarding feeling when it's done well. And I'm less interested in composing recorded music. I'm very interested in live music. And so, that's my drive, is to perform in front of people and to be sort of accepted or applauded or giving people a good experience, but on my own terms, I guess that's very important, because I don't want to, if I just want people to have a good time, I would be playing dance music and being a party DJ, which I also still do and I enjoy, but for what I call my music, I want to do something that's unique, have something that I think is interesting, but that also sort of is to somehow present it in a way that's appreciated and I guess that's my drive, is to get my ideas out there and to have them received. (2010)



Figure 3.9: dj sniff (Takuro Mizuta Lippit) being interviewed at STEIM, August 3, 2010.
Photo by Jeff Kaiser.

For Watkins, there is also this idea that the computer does what he cannot do, but does do what he wants it to do. Watkins never had a traditional instrument that he enjoyed. But like others, desired to make music,

Being someone who wants to be a musician, and didn't fall into love with an acoustic instrument, but still has the drive and ambition to do

music, the electronic medium was that avenue for me to create what I hear inside. So what I can do is be very specific, and chaotic. I can create a system where things naturally, the sound and the form, can be moving in surprising ways, very much dependent on what I want to hear. (2011)

For Ryan, the traditional instrument was a frustration that hindered him on the path.

I never quite achieved what I wanted as a musician that was interesting for me. I was frustrated by the physicalness of it. So you go for other ways to get there, in my case, it led through Hindustani music, electronic music, my education was in mathematics and physics and I was trying to adapt those skills and attitude to musical situations. This path led me from the hacker culture, eventually back to working with musicians. Here I am now in a very intimate relationship with musicians, thinking about what I do as instrumentalism.

At some level, it is just about technology and this weird fetishization. But for me, it feels deeper, it is about physics, about me wanting to grow up and have a relationship with nature. For me, music is not abstract, it is physical, natural, like taking a walk in the forest. About some sort of being in the world, intense material animism. When I write software, then I have to forget about how it works mechanically, then relearn by hearing what it does. To turn the computer into a device that collides, in the physical sense, with molecules. It goes back to rocks and stones and newts and sunshine. Music is ultimately sensational. I use lots of mathematics but what makes it music is coming back to immediate experience. Numbers as sensation. (2010)

For Taylor, similar frustration led to the “joy” of what he does, discovered in private, but increasingly shared through performance,

What drove me was this thing that began very privately. I played in bar bands, and I was miserable, and I was bad at it. Playing music I didn’t like, in places I would never go, for people I would never hang out with. I had to say this just isn’t for me...I realized I was doing [in the studio] what I was doing when I was painting. And I could do it

by myself. If it worked, then I could show it to people, if it didn't work I wouldn't. The studio was a tool, I didn't have to be a good musician.

But I was perfectly ok with imagining a world in which I could do something. How could you not want to work like that? What a joy! It was a private thing that nurtured me. I now find working alone increasingly difficult. I rely on the moment of surprise. Having your view pushed aside by the person you are with. I now try to program in a way that the process can surprise me. Can I build into the program the aspects of people I like and play with? That is what I'm working on now. Embodying another persons behavior in the software. (2010)



Figure 3.10: Gregory Taylor being interviewed at STEIM, August 6, 2010.
Photo by Jeff Kaiser

In so much music history there are tensions between old and new art forms and the values associated with them, people battling to retain values put into place by previous generations and other people wishing to either replace or expand those values with new ones. The artists interviewed here show their relationship with, and

incorporation of, past values with new values and an openness to examine what is the same and what is different with the new work and technologies. As Henke illustrates,

I like the part that computers actually do composition, or structure...I like that the machine is running and my job is more of a conductor than a performer or player. This is probably related to the fact that I have no formal music training...that the machine plays and I just define what it plays is very appealing. (2010)

Musical performance, even just the concept of performance in general, is a contested concept (Carlson 2004), meaning that there are diverging understandings of the term which may be in conflict with each other. The concept of performance, in study, is not confined by the physical space of a theater, but extends to all human behavior being examined as a performance. As Richard Schechner says, theories of performance are, “in fact, theories of behavior” (Carlson, 11). Schechner further examines this idea in his text *Between Theater and Anthropology*,

...the understanding of human behavior is changing from quantifiable differences between cause and effect, past and present, form and content...to an emphasis on the deconstruction/reconstruction of actualities: the processes of framing, editing, and rehearsing; the making and manipulating of strips of behavior... (33)

This contestation of ideas of performance and behavior is further complicated by the addition of new instruments that are less recognizable as such by many. As will be examined in the next chapter, these instruments may strongly exert a level of agency that that might be uncomfortable for traditional audiences, critics and artists.

In spite of this broader understanding of performance studies, the artists interviewed here seemed to have really one thing in mind when discussing

performance: the presentation or display of their particular skill, or work, in sound.

The drive to perform combined with this idea of performance creates an interesting tension with the artists such as Taylor, Henke, dj sniff and others discussing their lack of traditional training in music or a particular instrument. This referencing of lack of traditional training shows, at least partially, where the value lies in the conceptualization. As a point of reference being held up for comparison, it shows the place the idea of traditional music holds in their thinking, that it remains a model of value that holds power and which these musicians wish to be compared and contrasted. And there is also sometimes an almost apologetic sense to the phrasing, or maybe preemptively defensive. But new ideas of skill are present, and all the musicians talked about it, and there is a sense in the comparison with traditional education and music that what is happening may not be that traditional skill, but it is in the same arena and worthy of consideration. The value comparison is strongly within the musical arena. After an era of modernism where artists were—and many still are—working to value their art next to sciences as research, these creative musicians interviewed here are looking for value comparisons that exist within a sphere of musical practice, but at the same time, is different.

In contrasting this use of technology as compensatory for a perceived lack of a specific musical education, for certain artists, education in traditional music does play a role, as with classically trained singer Nowitz,

All of us, are influenced by so many things, we know so much. It's constantly changing, my taste is changing, taste is an important component. The eclecticism is where I feel at home. I take whatever I

want. I have a classical background, experimental background...these are the extremes...they go with each other. Genres and styles are just different colors for me that I choose from... I'm interested in physicality and intuition. At the same time being thoughtful, that's where the composer comes in. It's all about crossing borders, boundaries, there is the concrete sounds and the abstract sounds. I try to get over these boundaries, across these boundaries. That is something that is a motivating factor. To create something that we haven't heard before. I have the ambition to satisfy certain needs of the audience, I know what it is like to sit in an audience. That's where the tricky part comes in, you want to create something new, but you want to satisfy the ears of nowadays. It is really difficult, but that is the challenge, and I like to throw myself into the challenge. (2011)

This idea of difficult-to-define, or “don't know why”—also discussed in Chapter 2 as a description of what the artists do—becomes a characteristic of what is compelling about the music itself. As Landgraf says of improvisation,

There is no way around it: any description, any conceptualization, any understanding of improvisation, be it by practitioners or not, will draw on aesthetic categories and value distinctions that will not only define, but also constitute the object they observe—even when that object is thought to be elusive, indescribable, incommunicable. (3)

The earlier discussion of enjoyment, combined with the difficult to define aspect, moves from a description of the artists work, to something that compels and even drives the desire to create,

Sometimes I really don't know why I'm doing it. I think it is curiosity, as long as I enjoy, I like to improvise with people, I still excited to play with other people to create music. For some people it is really important, you don't know why, you just have to do it. (di Placido 2010)

With Rochambeau,

Catharsis, it just feels good. It's my drug. It does things to my mind and to my overall well-being...wellbeing seems to fall short of the mark I'm looking for. When I sit in front of these and things start going places, the mind just goes blank, it's meditative, it just is. (2010)

Anne La Berge,

That's a nice question, because it is probing how much conscious control artists have over their nature, their work. On one end, it is survival. Because I have a personal characteristic that needs to turn information into a personal expression, to embody it. Me and my body need to get things out. Otherwise, they don't feel good. And I love to do it, if you love it, you keep doing it. It is a strange unconscious act of responsibility to our people. It's not made to please, its made to assemble and express. (2010)

For La Berge, it is compelling not only for the artistic creativity, but for the artist's own physical health and wellbeing! The work, and the enjoyment that compels it is liberating, and this liberation of the artist—and the sound—can certainly be seen as a theme in many of the interviews,

I put the piezo on top of the speaker and it was like, ah, it was so alive, it was electricity that was not abstract at all it was completely visible and tangible I could touch it I could see I could hear it. My background was in sculpture. I'm a very spatial thinker, I could see sound in my head...but suddenly to see this electricity, it was so liberating. I could suddenly just dive in to these speakers and piezos... (Flanigan 2010)

And very clearly stated: freedom,

It's the freedom that I really cherish...what really drives me is the freedom that its created; the surprises of the present moment. (Chavez 2010)

Freedom expressed in music can be so many things: freedom of form, liberation of sound,¹¹ representations of political liberation. Some interviewees such as Flanigan and Chavez, describe freedom as an experience itself, a sense or feeling that the performer has that is best described by the ideas of liberation and/or freedom. In the midst of this discussion of what freedom is in this music, and the enjoyment I get in examining possibilities, for many of the musicians interviewed freedom is, in part, a sensation of release that forms part of Landgraf's "elusive, indescribably, incommunicable" category.

Discourses of freedom are an ongoing theme in music, particularly two of the discourses discussed earlier: improvisational practices growing out of African American creative practice and WAM. As Ferruccio Busoni wrote—at the time when modernism in WAM was exploding—in his text, *Sketch of A New Esthetic of Music*, "Music was born free; and to win freedom is its destiny" (5).¹² The language of freedom and liberation (and even "destiny" in Busoni) presume that there was not freedom and not liberation before. Freedom to do what? There is a common theme of joy among the musicians I interviewed, what was missing in so many interviews was angst, the idea of the tormented and tortured geniuses making music. Yes, the compulsion was there in the interviews, but it was frequently a compulsion to joy. Freedom plays a role in this music, the framework of no-framework (the rule of no

¹¹ This idea of the liberation of sound is related to the primacy of timbre in electro-acoustic music history. As Chapter Two in Chadabe's volume on the history of electronic music is titled, "The Great Opening up of Music to All Sounds" speaks of American Experimentalism (1997).

¹² On a side note, I find it humorous in the light of new complexity that Busoni believed that music would become marked by greater simplicity in the future, a "refinement of economy is the next aim after the refinement of prodigality has been learnt" (1957, 23).

rules) gives way to the unencumbered expression of musical desires, not limited by a specific traditionally defined physical skill or education. Does this desire for freedom represent the exhaustion of the Western art music toolkit? I would not be so naive as to think the new music is ending anything. But limits are perceived by musicians, and there is a desire to perform music that falls outside of those limits.

The same way, historically, traditional instrumental techniques have undergone a continual expansion as they were no longer able to represent what the musicians desired, ramping up to a quicker transformation in the 20th century. The idea of an *extension* came to be a mandate in American experimentalism as illustrated by Ramon Sender discussing the San Francisco Tape Center's goals in the 60s as being "founded on the firm belief that artists can and must extend their expressive vocabularies to include imaginative use of the materials of today" (Bernstein 2008, 47). Techniques, and the freedom to pursue new ones, also become a way to differentiate or disassociate yourself with previous or other traditions.

Freedom has been a part of the discussion of WAM and experimental music throughout their history, as illustrated by the Busoni quote. New York Times music critic Charles Rosen writes,

The partial freedom of, and from, meaning that is the natural result of aesthetic form is made possible by the exploitation of an inherent fluidity, or looseness of significance, naturally present in both language and social organization. This is a freedom often repressed, and attempts at repression and conformity are an inevitable part of experience. That is why aesthetic form—in poetry, music, and the visual arts—has so often been considered subversive and corrupting from Plato to the present day...Conventions are the bulwark of

civilization, a guarantee of social protection. They can also be a prison cell. Of course, any art has its conventions, too, just like every other activity, and an artist is expected to fulfill them. Traditionally, however, for at least three millennia and possibly longer, the artist is also expected paradoxically to violate conventions—to entertain, to surprise, to outrage, to be original. (2012)

But, in a way, more telling, he later writes in the same article, “From our artists and entertainers, we expect originality and resent it when we get it.” This freedom can come across to popular music audiences as being academic or intellectual, but like Duke Ellington, when asked “Why do so many people...consider jazz intellectual music?” replied, “We enjoy freedom of expression in presenting our music, and some people prefer to accept it in their own fashion” (Gottlieb, 37).

In his book, *The Philosophy of Improvisation*, author Gary Peters presents freedom as having a “questionable duality,”

Discourses of emancipation are usually in a major key, positive, sometimes celebratory, even joyous...Such writings, however, for all their positivity, harbor within them a deep-seated negativity that should remind us of freedom’s own questionable duality. (21)

Drawing upon musician Anthony Braxton and political theorist Isaiah Berlin, Peters addresses what he refers to as the “aporia of freedom,” or impasse that comes about through negative and positive views of freedom. In this case, negative refers to the absence of something, sometimes phrased as freedom-from; and positive as the

presence of something (choice, control, et cetera) sometimes phrased as freedom-to (21-23).¹³ Referring to Braxton, Peters writes,

In common with most collective improvisors his primary concern is actualizing a series of overlapping negative freedoms, in his running through the desired freedom-from racism, intimidation, and exclusion; the freedom-from a capitalist superstructure that commercially rewards artistic conformity and obedience to rigid stylistic codes while freezing out the alterity of genuine innovation. (22)

Peters, again drawing on Berlin, then develops the idea that negative freedom is about the collective and positive freedom is about, “the master who would rather enslave you than go unrecognized as a nobody...the singularity of the master that threatens the diversity, spontaneity, and originality seen by the vast majority as essential to improvisation” (23). It is the collective, as negative freedom, that stands in opposition to the singularity ostensibly protecting the individual members, but at the same time creating a state of conflict within freedom.

The music of the interviewees is quite diverse in style: beat oriented, drone, angular electronic mayhem, horns electronically extended, new instruments built. Can no-boundary be a boundary? With interviewees such as La Berge, we see a freedom *to* do something, to extend her instrument electronically, a freedom *to* compose or *to* improvise, or both. But freedom, rather than being a Utopic celebratory act of the music, is, as Peters states,

¹³ Mike Heffley uses similar terms in his examination in his text *Northern Sun, Southern Moon* in discussing a trio of ideas of musical form: “freedom from, in, and to form” (44) saying, “Freedom to form best describes the most fruitful and common ‘freedom’ enjoyed between players and material in this age old dialectic. At bottom, it is simply the healthy concourse between the two sides of the dyad, rather than their unhealthy mutual isolation, or domination of one by the other” (292).

...[T]he freedom of free-improvisation is not something that is enacted or expressed therein as the given substance of the performance but is, rather, something the improvisation allows us to *find*. Free-improvisation then is not the embodiment of freedom but a *search* for it in the here and now of the work's becoming. In a sense it is the negative freedom that is necessary to free the improviser and the improvisation from the forces that would devastate it: past works, the artist, the work, the other, the collective. (72)

Chapter 4: Instrumental Skills: Intention, Subversion, Invention

All these things are alive, they just have different kind of ways of expressing it. They are alive, the moment you touch it your senses tell you that you have made a connection. And it knows you've made a connection because whatever you do it responds to you. So, what is that, except a living organic connection.

—Wadada Leo Smith

It's not the whisk, it's the whisk-er! —Nels Cline

#maxisnot telling you what you make. —Cycling74 (2012).

I'm the only virtuoso on my instrument. I'm the only one that plays it, knows it. I'm the only person who has it. Therefore, I'm a virtuoso on it. —Gregory Taylor

Joel Ryan told me in his interview, “Electronic music is the first to arise without a performance practice.” Ryan was specifically speaking in the context of Western art music, where genres and categories developed and were even named around ideas of performance that to a certain degree became collectively standardized

through repetition, transmission and perpetuation over time. Electronic music, however, for Ryan and other interviewees has developed idiosyncratically: as individuals create single, unique instruments that only they perform with, they also create their own unique corresponding performance practice in relationship with that instrument, as the Gregory Taylor quote above illustrates. Interviewing contemporary musicians that work in EAIM about the technical and conceptual details of their practice has given me the opportunity to observe the development of these individual performance practices as they emerge.

The innovative use and design of new instruments and tools, as discussed earlier, is a part of the culture of electronic music. This focus on constructing the new can be seen by some of the interviewees as liberating from the history of traditional instruments and all that entails: performance practices, timbral expectations and pedagogical traditions. At the same time, performers and creators using new technologies are not able to escape the force of the object. That is, the instrument itself in many ways acts as a co-active force in the development of a new performance practice by either restraining certain behaviors or urging and encouraging others. There are also historical conceptions of music within specific traditions that influence the development. In this chapter I will be examining the development and experimental use of instruments, and how the musicians interviewed conceptualize their relationship (from design to use) with their instruments.

The introductory quotes above represent two of the common directions of the discussion: Cline's and the Cycling 74 tweet being a more widely held view of the tool

as under the control of the performer, and Smith's being where the tools are alive and exert agency on the performance. In a way, these quotes also set up a discussion of the concept of musical practice itself and what it means to have a practice. What the Ryan quote seems to imply is that there were no prescribed roles for the actors, tools and techniques that were codified as definitive of the musical practice being examined here. In other words, there was a widespread belief by those interviewed that prescribed roles for the actors in the form of a performance practice were left behind, and intentions of the first authors of tools being subverted, repurposed or ignored. This loss of intended purpose could speak to the creativity of the musicians, but it can also speak to the possible agency of the tools themselves, in that the relationship with the tools informs creative possibilities to the musician. (As explored earlier with the broken turntable needles of Maria Chavez or the different speakers used for different purposes by Lesley Flanigan.) The first musicians I want to examine are Ignaz Schick and dj sniff, who along with Maria Chavez, perform using what have historically been called phonographs.



Figure 4.1: Ignaz Schick being interviewed in a park in Berlin, August 27, 2010.
Photo by Jeff Kaiser

The phonograph's path to instrumenthood is littered with subverted intentions. As turntablist Maria Chavez said, "we're all in a way pioneers of it, because now we're all starting to use the turntable in a completely different sense than what it was originally made for..." Originally, the phonograph and related devices were created to be used by business professionals for dictation. However, sheet music publishers then found it a handy method to distribute generic recordings of their sheet music holdings to encourage sales of the sheet music.

Certain of these recordings became popular and sought-after, and the music recording industry was born. The popularization of the phonograph brought it to the attention of musicians who began to further subvert the intended use of the device by using it in experimental music as more than mere playback: the phonograph became a sound source for compositions. One of the earliest touted examples of this is John

Cage's *Imaginary Landscapes No. 1*, which was composed in 1939 and used several phonograph players (Cage 1960). Predating Cage's use, perhaps even inspiring Cage, Bauhaus/Dadaist artist László Moholy-Nagy wrote an article titled *New Form in Music: Potentialities of the Phonograph* in 1923 (Cox and Warner, 331). An important time, 1923 was when the recorded music industry was growing massively, following on the footsteps of Mamie Smith's 1920 recording *Crazy Blues*, which sold a previously unheard of one million copies in less than a year. Moholy-Nagy took the idea of the phonograph a step further than its popular use, and wrote about using the turntable for *producing* music, rather than merely the reproductive act, writing,

An extension of this apparatus [the phonograph] for productive purposes could be achieved as follows: the grooves are incised by human agency into the wax plate, without any external mechanical means, which then produce sound effects which would signify without new instruments and without an orchestra—a fundamental innovation in sound production (of new, hitherto unknown sounds and tonal relations) both in composition and in musical performance. (Cox and Warner, 332)

Other artists experimented with phonographs, from Paul Hindemith, Ernst Toch, Pierre Schaeffer and Mauricio Kagel in his large-scale work *Acustica*. In spite of this, the interactive nature of an instrument remained only partially present in the use of the turntable, limited to slowing down, speeding up and using their own pre-recorded discs. Indeed, as Cage wrote in his *Lecture on Nothing*, “The phonograph is a thing—not a musical instrument” (1961, 125), a position much at odds with conceptualizations of the turntable by contemporary turntablists.

The traditional conception of the phonograph changed even more radically circa 1977/78 when hip-hop DJ Grand Wizard Theodore began, “purely by accident,” doing what would become one of the signature sounds of hip-hop: scratching. Scratching, simply put, is “the sound of a record being rubbed across a stylus” (Shapiro, 165). What began as an accident, took the turntable¹⁴ from being a “thing” to being an instrument, from passively reproducing sounds to being physically and conceptually engaged in a way that would become considered virtuosic by performers. In addition to scratching, other techniques of hip-hop turntable artists have become performance conventions, that is standardized techniques, including: beat matching, slip-cueing, backspinning, cutting, needle-dropping, punch-phasing and more.

This method of sound production—the physical action taken with the turntable—changes the output of an instrument built on ideas of passive reproduction into live musical elements repeatable by the interaction of the artist with the object. As sound artist John Oswald says, “A phonograph in the hands of a ‘HipHop/scratch’ artist... produces sounds which are unique and not reproduced—the record player becomes a musical instrument” (Cox and Warner, 132). This can be contrasted with the manner in which Cage and others early users explored the basic affordances of the turntable. For

¹⁴ I realize that I have begun to jump between use of the words “phonograph” and “turntable.” Phonograph, is a more broad-based word used historically for different devices in the past that played sound recordings. All of the contemporary artists I have spoke with use the word turntable, and usually refer to themselves as turntablists and their practice as turntablism. The word “turntable” itself is different than phonograph, in that it is evocative of the motion of the device—rather than attachment to what it plays, i.e., a phonograph plays phonograph records. Just as turntable moves away from phonograph, we will also see with Ignaz Schick the moving away from the iconic terminology of “turntable” to “rotating surfaces.”

the purposes of this dissertation I'm using the term affordance, as developed by James J. Gibson but furthered by theorists including U.C. Irvine professor of Information and Computer Science Paul Dourish, who writes,

Traditionally, affordances are features of the artifact...that afford particular sorts of action to appropriately equipped individuals... However, features of the design also afford particular ways of understanding it, and particular ways of conceptualizing the relationship between the artifact and the environment... (185)

Nels Cline discusses his view that the artist is in charge of the technology, utilizing the affordances but at the same time, the artist's behavior is not driven by the affordances,

...I like to think that the technology is not driving me, I like to think that I'm trying to emulate sounds I've heard in recordings, in concerts, even in my dreams, in my head. I admit I get a juvenile pleasure...getting feedback that sounds like armageddon...those sounds are me deciding what's going to come out of the speakers. Those effects didn't tell me to do that, I made them do that by turning them on in a certain way, a certain sequence, certain parameters all at the same time, excluding others that would be extraneous, would somehow diminish my sonic mayhem. (2011)

At one level, an affordance of the phonograph is to play records. The early experimental artists used this basic affordance, but with a conceptualization of the object that was slightly shifted from the intent of the designers, i.e., records were slowed down, or sped up rather than played at the steady prescribed speed. But affordances become available, not only when the technologies change, but also as ideologies change. And while some affordances are apparent on the surface, others must be further conceptualized or discovered in relationship with the instrument.

Dourish presents embodied interaction as a model for this relationship, that while specifically addressing human computer interface design, I find helpful with musical instruments, “Embodied Interaction is the creation, manipulation, and sharing of meaning through engaged interaction with artifacts” (126). Where embodiment is understood as “the common way in which we encounter physical and social reality in the everyday world. Embodied phenomena are ones we encounter directly rather than abstractly” (100). The creation of meaning—linguistic and otherwise—that happens when playing an instrument, I believe, gives us our understanding of what can be known as a performance practice.

At the same time hip-hop artists were developing what would become standardized conventions and techniques of their turntablist performance practice (beyond merely playing back recordings), sound artist Christian Marclay was also developing an experimental use of turntables, for which he gained notoriety in the mid-1980s for scuffing, cutting and reassembling, pasting paper on the vinyl surface and then performing with the records (Zorn 2008, 139-141, Shapiro 2002, 170-171). But Marclay’s use of the turntable was different, as Shapiro says, “While HipHop DJs were becoming more virtuosic on the turntables, the avant garde was becoming increasingly fascinated with mistakes” (Shapiro, 170).¹⁵

Marclay and the experimentalists, and Grand Wizard Theodore and other hip-hop artists, plot two separate trajectories of the turntable as instrument. Parallel

¹⁵ A fascination also related to the ideas of brokenness and malfunction in my earlier discussion of Cascone, Zicarelli and others.

conceptualizations in time, but differing. These paths merge with contemporary experimental turntablists in different ways. Each of the three turntablists were interviewed about, among other issues, their conceptualization of their instrument and their music, and all were fully aware of both hip-hop and experimental traditions. Both dj sniff and Chavez were introduced to the turntable as an instrument through their work and familiarity with hip-hop and house music (respectively) but soon afterwards got into experimental music through the work of John Cage, Christian Marclay and others. Schick, while being aware of hip-hop when he started, used turntables from the very beginning specifically for experimental music: he was never a DJ and places himself firmly in the experimental tradition.

There is also an awareness among these artists of the iconic nature of the turntable. I.e., that what is a musical instrument to the artist and connecting them as artists with the paths of turntablism was also designed with the intent of commercializing music and is one of the major historical forces in the development of the music industry. The act of the interviewed artists using it the way they do, while undermining the very intention of the original creators of the object-now-instrument that they play, at the same time presents the turntable as a recognizable thing with a past to the audience. Even with the extreme constructions/arrangements of turntables and tools used by Schick, there is recognition as to what is being used (a turntable) and expectations held by the audience as to what these devices do. But the devices sound different than their intentions, destabilizing or subverting the audience's expectations of the iconic object. Noise historian Hegarty speaks to this,

All these interventions are clearly ways of disrupting the finality of the music commodity in purchasable recorded form. They are also ways of impinging on the teleologies of music: beginning, middle and end, no matter how strange the sounds that fill that time. Beyond this, the stability of a musical object...is nullified. (182)

In the midst of this destabilization the object itself still can maintain the iconographic reference, pointing with nostalgia to the past, or the ways in which the performer might treat the instrument as an ideological pendant. This pendant provides a visual clue to the viewer of the allegiances and practice alignments of the musician.

A related idea is that object also has “cyclical obsolescence,” making it what turntablist Marina Rosenfeld calls “ideally marginal,” an instrument straddling multiple worlds: experimental and popular music, an object of past great commercial import marginalized by new methods of distributing music, deemed obsolete by many and fetishized by others (Zorn 2007, 222). The use of the turntable by the following EAIM artists and the examination of the development of their idiosyncratic performance practices illustrates this. Schick frames his work as being linked specifically, and in his own words, exclusively, to experimental turntable history whereas dj sniff is linked to the connected and parallel histories of hip-hop and experimental practices of the turntable. For dj sniff, I will examine ideas of virtuosity in a performance practice, with Ignaz Schick, I will examine ideas of hybridity and complexity as regards to agency of the environment in a performance practice. Schick said,

I am an experimental musician. I use a setup I have developed, mainly, called the ‘Rotating Surfaces.’ It’s a modified turntable, to put

it simply. I use objects directly on the metal plate of the turntable, and the friction of the metal plate on the objects make them resonate and this is picked up by the microphone, surface sounds and everything, the whole catalog of sounds...my interest is to really bring out the specific sound of certain material, to see what is inside the objects... internal physical possibilities as to how something vibrates.

I'm completely not connected to well-known DJ practices, I much more come from a sculptural and visual aspect, and an experimental practice to go beyond the boundaries, to extend the boundaries of the medium. I used vinyl when I started out, but more and more extremely moved away. First accidentally, then discovery, first you have an accident and then you discover...my approach to turntable is very much connected to Fluxus and Christian Marclay...but particular Milan Knížák, a Czech Fluxus artist who predates Marclay and would cut records into quarters and re-assemble them, making record objects, some of which you couldn't play. This animated me to go beyond the groove of the record.

My original practice in electronic music, I was using cassette tapes to layer and compose, I was already interested in objects. I was originally interested in disturbing the surface of the record, drilling holes in it, sanding it down, glueing paper and bits of objects to it, to use paint. I got interested in noisy, distortion, rhythmic elements. Some of the discography is unplayable.....I was trying to experiment, using a very big spring, I was no good at soldering, the wires of the cartridge got soldered together, so there was no more amplification going through the tone arm. But the spring was still attached and it cut on the rubber mat and started to vibrate a clear singing tone, without any amplification. From that moment, everything I do was defined, I was like a child in a playground. At the beginning everything was noisy and scratchy, now I'm looking for more nuance, to refine. (2010)



Figure 4.2: Ignaz Schick, in concert at UCSD, April 29, 2010.
Photo by Jeff Kaiser.

Schick deconstructs, dissects and destroys turntables. The vinyl disc sitting on the turntable is gone, replaced with plates, steel and other objects. Balloons are attached to the tone cartridge and then plucked and excited in different ways to create bass lines. Objects made of metal and plastic are dragged across the stylus creating jagged, quickly shifting sounds that form into a high energy and rhythmic music, while objects spinning on the rotating surface are bowed to create sustained sounds. Surrounded by piles of objects—including kitchenware, toys, tools, machine parts, parts from a drum set—the environment is filled with motion as these items are grabbed, used, thrown into the air behind the artist, reached for later, spun, vibrated and amplified. In a manner, Schick has rejected more of the original intent of the

phonograph than any of the other turntablists interviewed: instead of building upon history and use, he removes and strips down to the core function. Schick has, as Maria Chavez said, “really dissected the turntable into just motion. Motion and friction...” Even the language he uses to describe what he does is stripped down, no longer is the phonograph/turntable referred to as either a phonograph or turntable: the object has become what could be considered its most basic element, a “rotating surface.” No longer reliant upon the amplification of the cartridge, though he does use it, and no longer even reliant on vinyl, a microphone is placed over the rotating surface (seen in his right hand, along with a bow in Figure 4.2), or moved around, to amplify the acoustic resonances of the objects in contact with the rotating surface.

Schick’s music, for me, clearly illustrates the feedback an instrument gives to the artist on the development of a performance practice. While experimenting early on in his career he accidentally disabled one of the most salient features of a modern phonograph/turntable: the means of electronic amplification. Consternation over the mistake of the loss of the cartridge amplification system, combined with his own lack of soldering skills, quickly gave way to creative stimulation that set him on the musical path he has been on for the last decade. Suddenly, the turntable mat (a disc that sits on the turntable that is made of rubber, cork, fiber, felt and many different things, whose intended use is to protect the vinyl record from the surface of the turntable) became a spinning source of friction to objects held stationary against the mats’ rotation. In other words, the turntable mat began acting as a bow would on a string instrument, exciting vibrations that could be amplified. This accident, this

unintentional act, could be attributed to: randomness, the turntable having agency, or to Schick as creative agent. Or all three. But important to this is the affordance of the instrument itself, the practice was not developed or conceptualized by Schick, but came about as an interaction between Schick and the object: the turntable was a force in the development.

With the work of Cage, there was a will exerted on the object (“not a musical instrument” in spite of his Zen stance)¹⁶ utilizing the basic turntable affordances, only partially undermining the intent of the creators. Schick and the instrument become partnered, creating a more complex environment, where the object pushes back on the artist, as the artist pushes on the instrument, creating a relationship that is strongly characteristic of what literature and philosophy professor Mark B. N. Hansen calls *system-environment hybrids* that arise out of complexity,

...first, worldly (environmental) complexity has become so intense and so messy...that any effort to reduce it through selection by systems (or their avatars) cannot ignore the agency that is wielded by the environment, and second, the operation of this environmental agency is now predominantly and ever increasingly technical, meaning that system function is irrevocably permeated by technicity from the environment. (Clarke and Hansen, 113)

Meaning and understanding are created through this complex interaction, including cyclical feedback between us and our “complex cultural and technological environments” as Andy Clark, Chair of Logic and Metaphysics at Edinburgh University writes in *Natural-Born Cyborgs: Minds, Technologies, and the Future of*

¹⁶ See Tracy McMullen that relates, *Subject, Object, Improv: John Cage, Pauline Oliveros, and Eastern (Western) Philosophy in Music* (2010).

Human Intelligence (11). This is all happening at a certain level with Cage as he is slowing down and speeding-up his phonographs, there is a relationship between hearing and what he wants the phonograph to do, but with Schick and other contemporary turntablists, the environment itself has become so thick with objects¹⁷ that, as Hansen said earlier, you “cannot ignore the agency of the environment.” The artist (frequently) has set apart this time and separated from everyday activities, and enters into a new environment. In the performance the musician is in a state of specialized hybridity, maybe not so different from everyday hybridity, but set apart. This differentiated state of system-environment hybridity could possibly be characterized by Mihaly Csikszentmihalyi’s flow (autotelic experience).

In flow, as described by Csikszentmihalyi, “[c]oncentration is so intense that there is no attention left over to think about anything irrelevant, or to worry about problems. Self-consciousness disappears...” (71). This state is one of enhanced pleasure and where one feels their skill is equal or greater than the task at hand. Performers of all ilk commonly refer to this as being in ‘the zone,’ ‘the moment,’ et cetera. Another aspect of flow, which is one of feeling connection, which I believe is where flow relates to system-environment hybridity.

Frequently used metaphors of connection are employed by musicians to describe the state of flow in performances when they feel they are at their best. This state of oneness musicians experience is represented as a combined psychological state

¹⁷ Schick travels with suitcases full of resonant objects, as well as acquiring them on the road and at the venue, when he is in his hometown of Berlin where the stage area is filled with even more possible sound sources.

and a physical state: oneness with the instrument and environment, and the ability to perform as they want. There is a strong coupling of the conceptual and the physical interaction of humans, tools and environment being presented in the musical performance. Csikszentmihalyi describes this as “loss,” of “self-consciousness” and of “sense of a self...of being separate from the world around it is sometimes accompanied by a feeling of union with the environment...” (63). Compare this with Wadada Leo Smith’s discussion of performance,

What takes it in there, is when I find the true spot where I exist in the universe, metaphorically speaking, the truest spot. That is, when I don’t care, or have no concerns about if I’m a good guy or bad guy, if I’m alive or dead, do I have a family or not have a family, is anybody listening or not listening. It’s that moment when you truly have slipped away from the values that you hold in your relationship to your social, professional or political position in life and you’re just really there trying to follow that inspiration—or read it to be more precise—read that inspiration to the absolute end of it. The reason it doesn’t last long is because it is so powerful, that is, the inspiration of the moment is so powerful it doesn’t need to last long. Because if you find it for just that brief moment you are going to spend the rest of the solo time just releasing it or working it out... (2012)

In Smith’s statement we see the elements of an autotelic experience, that the undertaking itself is its own reward. As Smith is pursuing the inspiration, the elements of conception of self—such as life, death, family, social, professional, political concerns—disappear. Csikszentmihalyi continues,

So loss of self-consciousness does not involve a loss of self, and certainly not a loss of consciousness, but rather, only a loss of consciousness of the self. What slips below the threshold of awareness is the concept of the self, the information we use to represent to ourself who we are... This feeling is not just a fancy of the imagination, but is based on a concrete experience of close

interaction with some Other, an interaction that produces a rare sense of unity with these usually foreign entities...[I]t is important to realize that they refer to experiences that are just as real as being hungry... When a person invests all her psychic energy in an interaction—whether it is with another person, a boat, a mountain, or a piece of music—she in effect becomes part of a system of action greater than what the individual self had been before. (64-65)

This experience could possibly be described as *system consciousness*, where the musician, having invested into the activity of the system, participates fully and freely with the system. This also becomes about the extension of human beyond the immediate physical coordinates of the body, even beyond the tools being used. As Wayne Bowman argues,

...mind extends beyond the physical body into the social and cultural environments that exert major influence on the body and shape all human experience...The boundary between ‘mind’ and ‘world’ is at once much more problematic and far more multi-faceted than cognitivist theory allow. (Bresler, 36-37)

Marshall McLuhan introduced this idea of technology as an “extension of man” (1999). But Bowman also mentions the breaking down of “the boundary between ‘mind’ and ‘world’” and that this can be a two way street, that we extend not only into the world, but the world extends into us as well. This idea of the tool and human being part of a system is found to be intimidating to some of the artists interviewed. Possibly, the focusing on the idea of disembodiment, the removal of some aspect of what is perceived as the self into something that is perceived as other than self. Perhaps the answer is more simple: many artists, at least in the course of my interviews, want to maintain their sense of agency.

The next turntablist, dj sniff, is also working to create a complex environment, albeit in a different manner than Schick. Dj sniff,

I am a turntablist and DJ that mostly performs in experimental improvisational music...My music is all based around turntables. I use the turntable in combination with the computer and I'm using prerecorded material and trying to reconstruct this material in a live situation using technology and tools that I've built...My main tool on the computer is MaxMSP and I have a patch that I wrote that basically samples what I do on the turntable based on some triggers that come in through the mixer and through a controller that I built.

I'm very interested in the sound of the medium. I'm very interested in what is the sound of the vinyl record: What is the sound of vinyl record going through a needle and what is the sound of that being processed in a computer. I'm very interested in the edges where we're hearing something, we're hearing what's represented or what's symbolized—or the content you could say—and I'm really interested in where that blurs or where that is ruptured and you suddenly hear the material of what it's on...

My sounds are very physical and very gestural. I'm constantly at the instrument...My performance is really focused on the turntable and the mixer. Then, whatever [music] the computer processes of what I do on the turntable and the mixer, I practice. I try to practice like any musician. There are routines and skills that there is in turntablism and in DJ'ing. Actually, it's interesting, my skills as a turntablist have improved—I've focused much more on that after I've been using computers and technology...[the] computer system exposed how much of a lousy turntablist I was. I couldn't generate interesting enough material to sample on the computer and play back. So, that really forced me to even be better at the turntable and feed it even more interesting material to play back...I've kind of forced it, to make it very gestural because of the computer system itself...I think that's the biggest attraction for me as a musician is that it's empowering and its become part of my musical process to figure out a relationship between these technologies. So, my music is always reflective on my struggles of my search with dealing with computers and trying to think about my performance with them. (2010)



Fig. 4.3: dj sniff (Takuro Mizuta Lippit) playing at UCSD CPMC Recital Hall, January 31, 2011.
Photo by Jeff Kaiser.

dj sniff is an example of merging traditions of hip-hop and experimental music that can be seen in the practice of many contemporary turntablists. Critically acclaimed and known among his peers for his virtuoso turntablist skills—in spite of his humble statements—dj sniff is insistent on being able to perform his own experimental music that he feels differs in dramatic ways from popular forms using the turntable, in particular, by eschewing the strong, regular beat associated with much dance music.

Using a single turntable, dj sniff runs it into a crossfader (Figure 4.3) being manipulated by the right hand. In hip-hop music, the crossfader does what its name

implies: crossfades between multiple sources, in particular, it is usually used by hip-hop artists and others to cut between two turntables.

In dj sniff's hardware setup, at the time of this interview, the crossfader would cut the signal from the turntable, sending it to the software (authored by sniff in Max/MSP) running on a Mac Mini. The computer can be seen next to his right hand with the cables attached to the back, without an attached screen: for sniff, the focus must remain on the instrument— i.e. the turntable—so any screen would be a distraction, not only for the artist, but for the audience as well. The cutting action of the crossfader not only sends the audio to the computer, but also sends a corresponding message to the computer asking it to record the audio and store it, and then to play either that recorded sample or another randomized sample that was recorded earlier. This technique of interface, connects sniff's "motoric skills" to the performance helping his music to become "very physical and very gestural." The concept of focusing on the physical performance is important to sniff, and has developed out of observing other experimental performances involving laptop, where it might (at least to the audience) appear that the physical involvement of the performer is limited, on a par with web browsing or checking one's email. The physical connection to producing music that is so common to acoustic traditions, but frequently foreign to electronic experimental practices, has led dj sniff to consider ideas of virtuosity in the performance practice of himself and other electronic musicians.

Starting a weekly research group in 2010 at STEIM (Studio for Electro Instrumental Music) in Amsterdam, sniff has met with artists-in-residence such as Bob

Ostertag (performer, composer, professor at UC Davis), Joel Ryan and others to discuss instrument development. The discussion of the conceptualization of instrumental design, as well as examining current and historical trends and developments in the creation of instruments, according to sniff, almost always leads to a discussion of ideas of virtuosity in performance: “Most people, including myself, think it is one of the central things of music making or of the performance of what we want to see.” Being a committed improviser, sniff is quick to dismiss ideas of virtuosity that is defined based solely on motoric skills. Dj sniff says that some of his research group members would argue that the term is defined solely in such a way (motoric skill) and that is the reason they believe that virtuosity should be left out of the discussion. But sniff does not want to leave it behind, instead, he wants to redefine the term in a way that is relevant to EAIM or contemporary musical practice in general.

The difficulty with conceptions of virtuosity being linked to motoric skill and specific practices is highlighted by Yutaka Makino, who has performed in the past with sniff. Makino said, “I’ve never thought of virtuosity...for me, it is tied with the classical lineage...” What is skill in this music? It is certainly acknowledged that there is skill and it is important, as di Placido said, “I think at one point every musician starts to have some virtuosity, some skills. Then you start to build your home.”

In certain music histories, changes in a style of music involve an invention and shift in skills, both technical and conceptual. The shift from swing and dance bands to bebop required musicians to learn (and invent) new skills, and think differently about

ideas of rhythm and note choice in the same fashion that moving from baroque music styles to classical and romantic styles required instrumentalists to shift their skills and invent new ones. It is important to remember, being a virtuoso is always being a virtuoso in something and at some time in some place. Virtuosity, then, can be viewed as a discourse in the sense that the concept is being constructed as it is being performed. The tension in relationships in such a discourse—for example, between actors such as performers, critics, composers, audiences with conflicting conceptions of skills, tradition, innovation, motoric ability, and notions of artistry—becomes as much a defining aspect as the skill itself, and the conflicting views a part of the reason virtuosity is so readily dismissed by these musicians.

In the history of certain musics, people with specific motoric skills became valued, and since the skills are specific to a limited group of musicians, the definition became clear of what virtuosity was in the given music. These skills also have a history of being—at least partially—transmittable, specific techniques on an instrument. You would study with the correct teacher, and they could transmit the correct information, such as fingering patterns on a piano.

In certain ideas about virtuosity,¹⁸ there is a conceptual aspect that is considered alongside skill (technique), sometimes called artistry. This complex relationship between physical technique and conceptual ability has led to an examination of proportions: technique considered mostly devoid of artistry might be

¹⁸ I will be focusing on WAM and virtuosity as I feel it is this tradition, as one of the discourses from which EAIM emerged, that the problems with conceptions of virtuosity stems for the interviewed musicians. Certainly there are valuable discussion of virtuosity, and its role in other musical practices.

referred to as empty virtuosity. Virtuosity then becomes a reductive, quantifiable value: if you do this, this and this, you are a virtuoso. There has certainly been a backlash against ideas of empty virtuosity such as this among musicians working in diverse musical fields, among them, improvised musics.

One day in Amsterdam, I was sitting on a bench enjoying a particularly lovely Fall day in The Spui, and discussing the idea of virtuosity in this music with Michael Moore, a well-known clarinetist and saxophonist with the Dutch ensemble ICP. Moore would have nothing to do with the word virtuosity. Every time I used it he would dismiss it, as he feels the word is too poisoned by its past conflation with playing fast and perhaps a bit overly dramatic, a display of excess skill. Yet in terms of virtuosity, if defined as both technical ability and broader ideas of artistry, Moore is with few equals. This *anti-virtuosity* view is was also stated by Yutaka Makino, who also wants nothing to do with the word, “I try to be as discrete as possible. For me, that [questions of virtuosity in this music] doesn’t make any sense.”

Some scholars argue that it is at the time of the Romantic era in classical music that the idea of virtuosity changed to a focus on the ability to motorically present the specifics given by a composer, leading to the alienation of performers and even the development of what might be considered reactive counter ideologies such as anti-virtuosity. Susan Bernstein, writing about Wagner, says that he,

makes clear that the compositional thought is the prior origin of the performance; he conceives of execution primarily as adequate repetition...Because the compositional thought is the prior origin of the performance, execution is considered a relation of identical repetition, almost like that of the printing press to a manuscript...

Ideally, only the composer himself could perform the work...but when anything but solo music is composed, this is of course impossible. (1998, 85)

Bernstein continues, referring to the virtuoso as

the usurper of [the composer's] identity, the delegate of himself...an extension of the composer's pen...Ideally, the virtuoso would be a musical instrument, that, the kind of instrument that is thoroughly effaced in the presence of the ends it serves...The proper characteristic of the virtuoso is to have no proper characteristics... (1998, 86-87)

It is easy to see how a practice such as EAIM dominated by idiosyncratic performers, instruments and improvisers might rebel against the concept of virtuosity growing out of this practice, where “Wagner clearly strives to integrate performance into a hermeneutic totality dominated by composition” (1998, 88), or if we look at the source of the composition: “dominated” by the composer. A view that continued among some (though certainly not all) composers, as stated earlier, such as Boulez. The word virtuoso being connected to the idea of virtuosity gains a specific meaning and association from the classical music tradition, in fact, Bernstein might agree with Makino's assessment of virtuosity, if conflated with virtuoso when she writes, “The virtuoso is a sociohistorical figure that emerges within the confines of a specific history of music, of the economics and politics of entertainment and spectacle, and of journalism” (1998, 11). There was a time in the history of WAM where, as Burton Peretti writes about the relationship of performance and the score, that in the past,

Spontaneous improvisation had been a highly valued talent among European keyboard and string artists well into the mid-nineteenth century, when music critics and pedagogues discouraged the

practice and championed the virtues of the written scores (which had originated centuries before as heuristic guides for improvising ensembles). (113)

This loss of individuality, participation and the denial of expression of the personality of the performer seen in such a way can be contrasted with Duke Ellington's conception of orchestration, where he worked with key players in mind, even naming them in the score.

Most composers' scores carry the names of the instruments (1st trumpet, 2nd trumpet, etc.). As was typical for Ellington, this short score for Caravan bears the names of key individuals in his band, because he orchestrated his pieces with specific players in mind. In various places you see trombonists (Juan) Tizol, (Lawrence) Brown, and Tricky (Joe "Tricky Sam" Nanton); saxophonists Rab or Rabbit (Johnny Hodges) and Otto (Hardwick); clarinetist/saxophonist Barney (Bigard); and trumpeter Cooty (Cootie Williams). Seeing which player is assigned which note provides scholars with a much fuller understanding of this piece, and enriches the listening experience for the trained ear. (Smithsonian 2009)

In the differing conceptions of virtuosity, and the role of the virtuoso musician, we can see the conflict between the twin discourses of Western art music and improvised practices in EAIM. But, dj sniff, is sure to qualify his ideas of skill and virtuosity as being more than—but including—motoric skill. Sniff states, "some people are strict as defining virtuosity just to motoric skills, [that] it's about physical movement and interaction on the spot, and not including for example listening or selecting. I'm not—I think there is a lot of skill to listening and knowing when and making decisions that are right." This skill he equates with virtuosity, but at the same

time in his own practice he is also committed to and “very concerned with the traditional sense of virtuosity” that involves motoric skill in its conception, saying,

I try to look at people like Evan Parker or Max Roach or that post-bebop generation that moved into the instrument and tried to define instruments as solo instruments. Those are my big inspirations: because I’m trying to do that with the turntable, and I’m trying to see what makes sense with today’s technology in doing that. (2010)

This idea of virtuosity in listening and knowing goes against the ideas of performance in certain Western art music that connect virtuosity solely to motoric skills. Listening is a well-used idea in improvisation, but the importance of knowledge somehow gets lost in ideas of the musician as intuitive listener. Different kinds of knowledge become important in this music, and its complex roots in many traditions, Joel Ryan says,

Knowledge of time is a specific kind of knowledge which is really important in music. All musicians are virtuosos of knowledge of time. I think of that as a sense like sight or smell...It is a bodily kind of thing. Music is riding along with this physical knowledge... Knowledge of curvature, ballistics. A specific kind of timing... (2010)

Listening and knowing work together: it is one thing to hear something, another to have the knowledge to do something with what you hear. When discussing ideas of virtuosity, Keith O’Brien says,

There is such a thing, no doubt about that. Whether it is appropriate or necessary is another thing. I don’t have enough of it, and what I do have, I milk it. I find a way out by destroying it. More of a virtuosity of the ear, managing it all. (2010)



Figure 4.4: Keith O'Brien performing at Roy Carroll's studio, Berlin, August 29, 2010.
Photo by Jeff Kaiser

Returning to dj sniff,

I think that's what it all boils down to as a musician is knowing when and what...it's very difficult. It becomes quite conceptual and it becomes about, it involves knowledge and programming skills and it also involves thinking about the relationship of the tools and the sound and the interaction. And then, encompassing all of that stuff and then knowing how to perform it and doing the right things, designing your interface to be able to do certain things. I think a big part of it is about limiting your possibilities in the computer, limiting it to what you really need in a performance and finding what's the essence of the performance you want to do and thinking of how to execute it...And I think when it comes to that stage it's less in virtuosity, but it becomes more of thinking about a musical practice. So what is a musical practice of a digital performer? I think it involves a lot of things other than just sort of motoric skills.

Also important in sniff's idea of virtuosity is limitation of the instrument.

When developing an instrument that involves electronics, such as his inclusion of the computer with his turntable in performance. Dj sniff continues,

A lot of practices are about going beyond that limitation [of the instrument] and finding the places that usually you wouldn't find and then that's the kind of core of the music. But if your instrument can go on forever, what is the experimental nature of it? What is your extended technique of that song or instrument if the possibilities are just borderless.

This is an interesting contrast with artists such as Pamela Z who discuss musical possibilities as limitless, while still introducing the idea of managing it all somehow,

There are so many places to have skill and virtuosity. The acoustic instrument, the technology, the compositional skill. There's all these different layers that go beyond following a tradition of a technique... It's the choices you make. It's all choices... Making decisions and executing them... there are all these layers where the creativity happens and it all comes down to decision making. (2011)

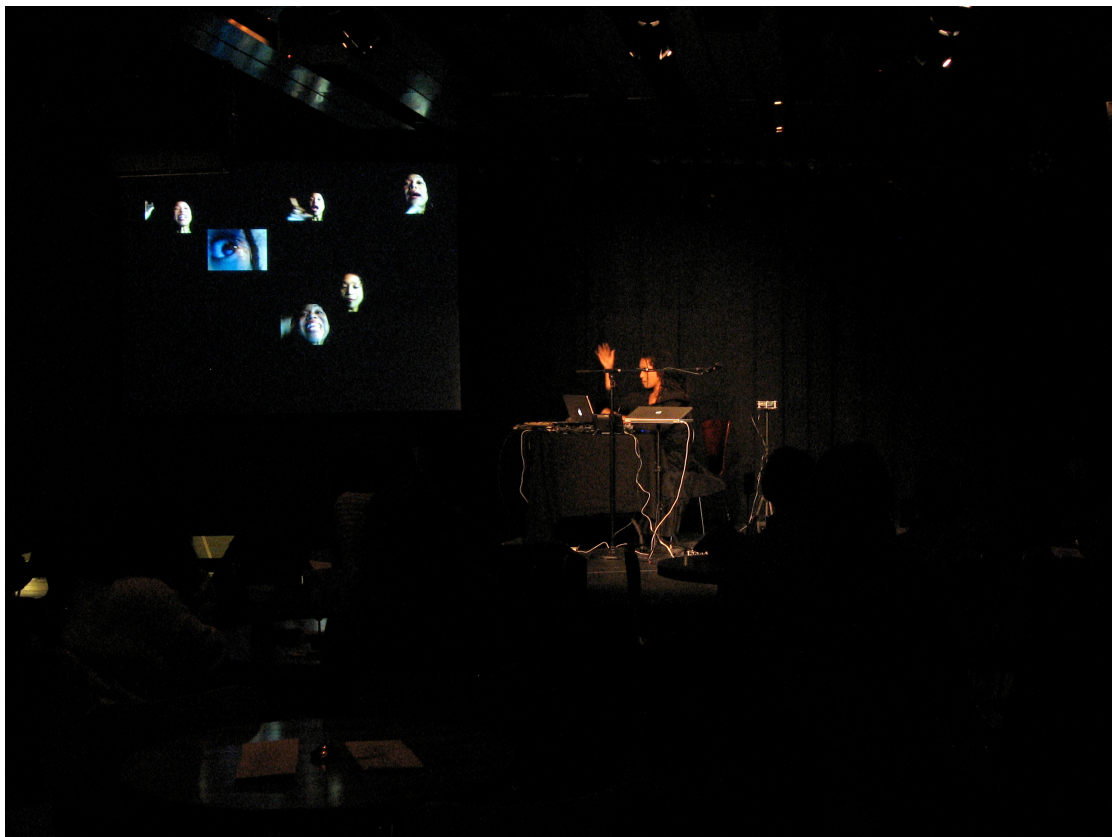


Figure 4.5: Pamela Z performing at The Loft with multiple versions of herself, UCSD, March 12, 2011.
Photo by Jeff Kaiser.

This addresses an issue in sniff's—and other interviewees'—discussion of the development of an idiosyncratic performance practice that employs software based instruments: that software-based instrument builders have a tendency to build instruments that have very many options available. How can learning occur if an instrument is open ended? If a performer is constantly learning new aspects of an instrument, how can one become virtuosic? When designing an instrument, sniff is clear, don't think about virtuosity: think about musical practice itself,

I think a big part of it is about limiting your possibilities in the computer, limiting it to what you really need in a performance and finding what's the essence of the performance you want to do and

thinking of how to execute it...A lot of times virtuosity comes out of exactly the limitations of the instrument and especially with improvised music or experimental music. (2010)

All these ideas feed into sniff's focus on improvisation, begging the question: Why are improvised and experimental music "especially" affected by the limitations of an instrument? Virtuosity, in sniff's view, can only be achieved by pushing against—or even through—a boundary. If resistance does not exist, there is nothing to push against, and nothing to be perceived as virtuosic.

The three turntable artists I interviewed (Chavez, Schick and sniff) working in experimental electro-acoustic improvised music have a related conceptualization of musical performance in spite of their differing approach to music. All three artists take seriously ideas of skill and virtuosity, practice, audience and the specialness of what takes place during the performative moment on the stage. Yet their sounds differ widely not only from each other, but from others working in turntablism. There is certainly inherited language about musical performance from the musicians whom they draw upon and cite as influences, but there is also resonance in the shared values and meanings that originate in the experience of making music and working with similar tools: which makes these two seemingly disparate conceptions (different music/same description of experience) worth mentioning. There is a commonality to experience that goes beyond the difference of the aural content of the performance.

Another artist working with subverted intentions and bringing up questions of skill and relationships with their instruments is Curtis Rochambeau.



Figure 4.6: Curtis Rochambeau performing on his “small rig” in his living room in Springfield, Oregon, July 7, 2010. Photograph by Jeff Kaiser.

In concert, Curtis Rochambeau has the backs of his many racks of gear turned towards the audience. In the darkened, large room at DIVA Gallery in Eugene, Oregon all you can see is the glow of the tubes from the equipment and the slightly illuminated Rochambeau on the ground. The view of Rochambeau is mostly obscured by the equipment itself. As we see him move slightly, a loud repetitious clacking begins pulsing through the speakers: driving, consistent, repetitious and very loud. New layers of slightly different pulsing clacks are introduced one at a time, providing rhythmic contrast, with a slight timbral change. More layers are added, each one consistently rhythmic with itself, but different than the last. The layers of sound began to build up, creating an aural mandala, they are consistent sounds, but with variance. Within the consistency of sound, a three-dimensional impression begins to emerge as certain layers of pulses are moved forward or backward in the audio field. The sound

is intensely loud, filling the space, surrounding people, and the pulses are physically felt on the skin and internal organs as Rochambeau continues to build in both density and volume. The frequency of one layer of pulses is increased and slowly, it moves from being perceived as individual impulses, to a pitch that is guided into a rising and falling glissando pattern. Rochambeau's physical motions creating the change in sounds and layers are barely noticeable: the extension of an arm here and there, the sight of a hand placed on a dial, nothing more. More layers of glissandos and pulses are added. The music has a physical quality, as if there is something in the air that you could reach out and touch, and that you could physically move through the sound. You can actually feel the air around you moving, brushing against your face and moving your clothes. There is a great density to the sound, but it is a density of order and doesn't feel chaotic or random. Everything is working together. After approximately twenty minutes, the performance ends by all the sounds just stopping.

I first met Curtis Rochambeau before the concert described above, the afternoon of December 22, 2007. I had been invited by Don Haugen—a Eugene, Oregon resident and noise music performer and impresario—to perform at the event. Rochambeau pulled up in his truck as I was sound checking and begin to unload rack after rack of very large and very heavy equipment. I became intrigued as we discussed what he was using, and a few years later was able to go to his house and interview him about what he does and the tools that he uses:

It does sound a little bit like equipment failure...I mainly work with sound. I don't really approach it in a musical manner...Honestly, I don't feel like I make noise. I work in sound...What I do is abstract in

the strictest sense, it's not experimental. I'm not experimenting, I'm using this [equipment] as an instrument. My goal is to fill a room with a tangible atmosphere and build sonic shapes and move them around, maybe push people with them...it is relaying this power as efficiently as you can into this room. Typically this translation of power, like if you were to drop a noise set on the mall, it would WIN the mall...it is a more powerful medium than the mall. Though I do describe what I do when somebody asks as "make noise." The sounds I describe are for a catharsis on my part: healing, big sounds. You go outside and interface with the outside world, the sounds that I'm after are the sounds that takes that burden and squish it in a ball and throw it away. Simply working in sound, trying to build an audible thing. Difficult, if not impossible, to describe. (2010)

Rochambeau, as can be seen in the above quotes, has very clear goals with his music. This clarity of purpose is a philosophy that shows up throughout the interview. For example, Rochambeau's idea of what is skillful in other musicians working in his realm: "somebody who has a very simple purpose, a single idea or agenda...it is focus on one thing." This "focus on one thing" carries from his aesthetic preference to his choice of tools he uses to attain it: old testing equipment, including that used on assembly lines and in biological/laboratory settings. When asked "why these tools?" Rochambeau replies, "I'm comfortable with this...this is my home territory, this is stuff I understand."¹⁹

Rediscovering this equipment, and the possibilities it afforded for making music was an accident. An uncle purchased an older Tektronix modular oscilloscope on an auction website. His uncle, put off by the large size of the equipment, gave it to his nephew. Rochambeau was thrilled with the hardware: its construction, history, the

¹⁹ Gregory Taylor and Olivier di Placido also use metaphors of home as regarding their comfort with their performance practice.

physicality and immediacy of what it did. He ended up becoming a regular on auction sites purchasing Tektronix pulse generators, waveform generators, eventually adding other equipment such as Grass Technologies Nerve Stimulators.

His original interest in the equipment was to use it to capture body information (pulse rate, et cetera) and use that data as control generators for synthesizers.

Rochambeau “forgot what inspired him,” but one day he made a cable and plugged the laboratory equipment directly into a mixing board to listen to what its processes sounded like. What came out was a unique sound—albeit reminiscent of older modular synthesizers—but different due to the “huge amount of voltage behind” the generators, providing an audible difference than what you would get with synthesizers specifically designed for musical use. In Rochambeau’s terms, the sound the device emitted was a “a bastard child of a square wave [tube technologies respond slower to voltage, rounding off the edges of the square waves]...a lot of internal distortion...A full rich sound...like a bent toy...like eight-bit stuff...but it has a huge amount of voltage behind it...fuller, warmer...they just sound full.”

Equal to his appreciation of the sound and appreciation of the old analog equipment is Rochambeau’s commitment to not using a computer in his music for anything other than recording and documenting. Rochambeau states his appreciation and connection with analog technology, that differs from the affordances he perceives of a computer and software based musical devices, “...I interact a lot better with knobs and switches...computers are a little more cerebral than I am.” But in addition to this separation from computers, there is also a sense of nostalgia in Rochambeau’s

preference for knobs and switches, a physicality that can be touched, and this sense of nostalgia becomes clear after speaking with him.

On one hand, it could seem very glib to bring up ideas of crazed machinery and mad scientists, science fiction and horror films of the past. Yet, Rochambeau does have a great love of these things, even going so far as to acting in an independent horror/sci-fi film about a UFO cult in Oregon, *The Children of Terra Firma* (Liebenau 2012). The trailer for the film (I have not seen the entire film) also has a retro/ nostalgia meets contemporary time, the joy and feel of B movies of the past.

Nostalgia feels part of a genuine affinity present in Rochambeau for these technologies of the past, and over the years he has developed a great knowledge to go along with the appreciation that he does not keep to himself, freely sharing tips and discussing histories on his blog, a real treasure trove on esoteric hardware, including pictures, descriptions and notes of his equipment collection, as well as how-to information on maintenance, repair and modification.²⁰ Rochambeau's site is not what might be considered a typical fan site as Rochambeau is a practitioner. He is "not experimenting," or a hobbyist, he is an active and practicing performer. His appreciation of obscure technology becomes conceptualized as important and valuable within the community by both practice, and in the sharing of that knowledge. Rochambeau exudes the social character of technology that leads to a shared identity and conceptualization.

²⁰ <http://crochambeau.blogspot.com>

It is illuminating to examine Rochambeau's rejection of the digital progeny of his analog hardware: the simulated skeuomorphic software modeled knobs connected to hardware controllers. This is an oft argued over theme among musicians: analog versus digital, which could be reduced to thing versus simulated thing. The simulated thing—as examined and theorized by thinkers from Walter Benjamin, Jean Baudrillard and Gilles Deleuze—becomes a thing in its own right, not just a copy, both conceptually and practically.

One function of the simulated thing is to challenge and overturn positions of privilege. Interestingly enough, Rochambeau's use of the original (hardware versus software simulation) is fulfilling the same function of the simulated thing.

Rochambeau has taken a specialized tool of science, used in the past by trained physicists, engineers and technicians in scientific laboratories and factory assembly lines and then brought it into an art gallery. In a way, aesthetically subverting the original use. This view also deconstructs the idea of “technology perceived as autonomous” (Feenberg, xvii) by the musician bending the intended purpose of the machinery, and overturning and challenging the position of newer technologies, as well as historical uses.

Repurposing also helps us to reconnect the technology to human activity, fixing the rupture of science as autonomous, re-affirming that technology can come out of human activity, reminding us of the physical and material aspect of culture. Early on, when he began to perform with the equipment, Rochambeau found what he considers a bonus: that the devices “have a mind of their own,” and that they would

introduce variation due to their analog nature. Left turned on and playing a certain sequence, the sounds and patterns will change and vary over time, due to what Rochambeau refers to as “drift in the components.” In this way, the machinery becomes a creative partner in performance, introducing it’s own ideas and reacting to changes introduced to it, not only by Rochambeau, but also by the physical environment.

I can leave it on...go putter about and come back and it’s something different. I find that endearing. It is kind of like a trusted bandmate. They are going to do their thing, while I’m doing something else, and it will continue to work itself out. I can neglect [this equipment] in a live setting and it does not get monotonous.

In the assembly line or laboratory, technicians would need to constantly adjust the settings on the equipment. As vacuum tubes inside the machine changed temperature, or the outside temperature, barometric pressure and humidity changed, the output of the equipment would slightly change. Meticulous monitoring was required to keep things working as intended in a technical environment. But these same defects are set free by Rochambeau in a performance environment and are even viewed as personality characteristics of the machine.

The machine, as an actor in the performance, introduces variety and change, analogous to software such as George Lewis’s *Voyager* and other software agents that make their own performance decisions, although the changes the testing equipment introduce are on a much smaller level: a slight change in pitch, speed or timbre. But with multiple pieces of gear, these changes can all add up over time, and these

personalities and characteristics can become appreciated by the artist, rather than trying to adjust them out of the performance.

Like George Lewis's "nonhierarchical, interactive musical environment that privileges improvisation" (2000, 33), Rochambeau's focus is on improvisation with the technology as an equal partner. But Rochambeau differs from many of the software agents and designers of technology such as Lewis in that Rochambeau is not designing this equipment, but is making use of a characteristic that was previously considered a design flaw that was set in place years before Rochambeau was even born. In the same way that Lewis is "de-instrumentalizing" the computer and making it an equal partner in the improvisation Rochambeau de-instrumentalizes the hardware he uses, after he repurposes, or one might say, depurposes. Technology can become, as Lewis states, a "carrier for history and cultural identity," but even more so can be viewed, in an animistic fashion, "as a human being" (2000, 37) or, as Rochambeau put it: "A trusted bandmate."

Rochambeau's work is an interesting and simultaneous embrace of technology's past and rejection of (or conscious turning away from) technology's present. At some point in recent history the equipment Rochambeau uses was the peak of industrial and scientific progress, now it is an undeniable and physical connection to the full bloom of a technological culture of a past era. Rochambeau can be seen as concerned with time, history and temporality as he embraces these retro-objects incorporated as agents in his musical system. But these ideas also have a sense of

ironic pleasure about them, the way he smiles and enjoys working with these objects in ways that were not intended.

There is a superimposition of elements of modernity, modernism and post-modernism in what Rochambeau does. The “bastard child of a square wave” could be easily digitally modeled using current software techniques, and sound quite nice. But the object Rochambeau uses offers much more than a rounded square wave. Even the variation and change the equipment introduces could be modeled in code and run by a computer. Rochambeau’s use of the object becomes a physical act of rebellion against standardization, even commercialization in music, a response to the perceived imprisonment by apparently chimeric modern digital machines to interaction with a real partner. This could also be perceived as an attempt at the recovery of a loss of co-agency, when Rochambeau says “computers are too cerebral for me” that could be perceived as a power imbalance being created in the performance environment where he is less of a partner. The preference of a historic hardware agent as opposed to contemporary software agent, in this case, is also mediated by the idea of the present in improvisation.

The superimposition of aesthetic views that are competing, conflicting and coexisting in Rochambeau’s work, could also be characteristic of much contemporary art. As so many artists, Rochambeau’s views on what he does are indeed, “difficult to describe” and present us with multiple meanings that can be shifting, overlapping, conflicting and effecting the meaning of each other depending on what is in the forefront. Through such polysemy, Rochambeau’s conceptualization of his work, as all

of the artists interviewed, avoids reduction. In the midst of this redefining strategy, using physical objects such as historical laboratory equipment places Rochambeau into a discussion of post modernity and concepts such as nostalgia and irony.²¹ Yet with so many other things going on, reducing Rochambeau to post-modernism ideals does not seem right. These multiple, conflicting views lead Rochambeau to eschew specific reductive explanations of why he makes the music he makes, like so many artists, he says it is about attempting to describe an experience.

Rochambeau's musical performance practice of dialing knobs, flipping switches on old laboratory equipment lead us to the continued examination of ideas of skill. With the musicians I interviewed, when discussing skills, as noted most would not want to discuss ideas of virtuosity in the sense of negative views discussed earlier. The musicians interviewed wanted to direct the discussion of skills into less concrete, and therefore less reducible ideas, such as a virtuosity of imagination, or into realms of cross-domain understanding using metaphor and metonymy such as virtuosity of the ear. This dramatically changes the structure of the discussion of skill and virtuosity, as ideas of skill and virtuosity have moved from specifically defined and transmittable techniques to conceptual skills that are more vague: skill as a concept—or generalized value—loses transmittable specificities. Some interviewed musicians see this shift as a

²¹ Some authors might argue that nostalgia does not belong as a trait of postmodernism, while others would use it as a negative trait. In 1988 scholar Linda Hutcheon writes, in contrast with Terry Eagleton and Frederic Jameson, "it is not essentially depthless, trivial kitsch, as Eagleton and Jameson both believe...Postmodernist ironic recall of history is neither nostalgia nor aesthetic 'cannibalization'" (1988, 24) but she later changes her position to one of a positive view of the role of nostalgia in postmodernism, stating of her past views, "I simply believed irony to be more complicated, more interesting, more 'edgy' than nostalgia, and in so believing, I all but ignored the very real and very uneasy tension between postmodern irony and nostalgia today" (1998).

democratizing force, that everybody has imagination and this music becomes something anyone can do.

Along with the loss of specificities and increased vagueness, there can come a mystification, and metaphysics if you will, of improvisation. Subverting traditional views present in ideas of virtuosity can just replace them with a different power structure, in this case, one of a specialized creative class. Artists are still willing to make critical statements as to what is, or is not, an imaginative or quality performance while not breaking down why. The reasoning behind that can be chalked up to experience, age, wisdom, history, who you've played or recorded with, what reviewers think of you, what you as the reviewer thinks. The increase of undefined variables in the conceptualization of virtuosity (increase, because again, vague terms such as artistry have always been a component) can actually transmit the power to a different group of players introducing a new ideological framework and source of interpretation. In this sense, improvisation, or any other overriding music aesthetic position, becomes an ideology through which values are expressed and communicated. Musicians I interviewed, displayed a shifting of conceptions, hence a shifting of ideologies, of what skill and virtuosity are, moving away, or even rejecting, ideas of virtuosity as motoric abilities or skill as mastering a difficult technical passage, to skill as being a concept that is not well defined.

These less tangible ideas of creativity, imagination and fantasy were expressed as being valued, more so than any ideas of specific motoric skills. The extremely adept flautist, Anne La Berge, who many consider a virtuoso, also downplays the idea of

motoric skill, tying in with what sniff and others said earlier about listening and knowing, pairing imagination/fantasy with memory, saying,

There is a virtuosity in being quiet, in imagination, in memory, coupled with the technology which has to be clear enough that I can start using it intuitively, getting surprises out of it...where I can discover another turn of sound or technique in either the machine or me or the flute. I would call virtuosity: fantasy, and memory to use it.



Figure 4.7: Anne La Berge playing at Zaal 100, Amsterdam, May 8, 2012.
Photo by Jeff Kaiser

Nels Cline, another musician critically recognized for his skill, also downplays the idea of motoric ability, focusing on imagination as well, saying,

This is certainly something anyone can do, which is certainly something the detractors get to jump out of their chairs and start

pointing fingers...I think it is all about imagination, you are presented with something, and then with the possibilities of what can be done, and that's what's fun...It's just a matter of what one can imagine and do with it that's important, it's not a matter of whether it is difficult or not...I just assume people express themselves rather than follow some sort of old school curriculum...[If you want to play differently] who knows, you may change music forever...If you want to just express yourself...an "innermost necessity" as Robert Motherwell would've said, you might as well just do that...I always thought I had to be conventional and learn everything in order to justify doing something of my own. But I don't believe any of that anymore, I think that was a straight jacket for me, I think it was really inhibiting. It didn't hurt me to learn stuff, but my attitude about learning stuff was a little off... For me it comes down to imagination, if you can't imagine a sound, or if you haven't explored...you start filing away, what works, what doesn't work, what is possible, what is not possible...use the most salient and maybe most effective sounds and add them to the vocabulary and perhaps return to them at a moment when you're hearing it in your head so maybe it has something to do with what's going on, and it seems to contribute something to the endeavor at hand...

There are also within this community artists such as dj sniff, who, do not want to leave behind the physical gesture, which is tied to physical skill. It seems self-evident with artists such as Cline and La Berge, among others, that play down ideas of physical skill, that they themselves possess great physical skill.²² One difference in motoric conception with EAIM, is that small gestures can have very large results, if you turn a dial or raise a fader on a MIDI controller you can trigger incredible, giant sounds. But the ease of creation does not make one skilled, Robert Henke said,

²² Sometimes the model of performer-controlling-the-object model seems like a projection of the Cartesian split (mind controls body) into the musical world, or for that matter, all worlds involved with using tools. This Cartesian model also permeates software (mind)/hardware (body) conceptualizations. Views of the musician/instrument/environment hybridity represent a model in line with thinking contemporary models moving away from Descartes.

I came to this originally with the idea of the total liberation from virtuosity by electronics. The computer does everything that needs virtuosity, all you need is the brain. All you need to have is an idea. I no longer think this is true, because there is a strong connection between the ideas you have and the virtuosity you have with your instrument. The more you can play, the more you do play. I judge virtuosity very high, rehearsing and practicing very high. You can become good at moving a fader...I have this specific haptic connection with those faders...This is why people like certain hardware, they are skilled at using it in a certain way...If you want to perform in a convincing way you have to react and this implies that you know your tools.

Lesley Flanigan is very big on this idea of knowing your instrument, a concept that can be applied to any instrument, saying, “All the wrong notes, all the wrong sounds, but when you have complete physical control it just doesn’t matter. When you know your instrument well, you treat it like a real relationship and let it be itself and work with it...” (Flanigan). This knowledge of your instrument is carried further by Alex Nowitz. As a singer, this idea of knowledge of your instrument means knowledge of your own body, and where some musicians seem to want to downplay ideas of the body (motoric skill), Nowitz emphasizes it

I’m very aware of my body. Every singer needs to have that. Once I’m using any musical interface I need to be aware of its visual impact, what expression, its impact on the audience. I’m always trying to be as simple as possible with the instrument. What I’m trying to aim for is to create synchronicity between musical result and movement. I want the audience to experience the music creation process, the effort I’m putting into creating this or that musical result. And that is something that you can achieve only if you create as much synchronicity as possible between movement and result. Complexity comes into music through us, through the human approach to music.



Figure 4.8: Alex Nowitz performing at The Loft, UCSD, May 21, 2011.
Photo by Jeff Kaiser

Physical virtuosity is something that is under constant change, and with new instruments, such as is common with this music, there is perhaps an even higher rate of change. But there are caveats on codifying virtuosity, as Chavez says, this is like making one language the basis of all language,

I think we're all still developing what virtuosity is, because using a turntable as an instrument is still so new. So, I think we're all in a way pioneers of it, because now we're all starting to use the turntable in a completely different sense than what it was originally made for...in a way I think we're all at the very beginning still of this instrument becoming widely known in mass-media as an instrument as well. Because I think people when they hear the word turntable, they immediately do this, they think of a DJ. It's not what we do at all anymore. If anything, it's a totally different world; it's a totally different language...I normally tell people when they say like, 'Oh! Well you've got to learn the basics of hip-hop and the basics scratching before you can do what you're doing.'...The only thing I can tell them is if you really believe that hip-hop turntablism language is the basis of all turntable language then you must believe that

English is the basis of all human language and that's completely not true...is detrimental not only to the hip-hop scene, but also to the growing turntablism scene that's happening now.

Liz Albee gives a nice summary of this tension,

That's the mind fuck of entering electronics. There's the desire to engage technique, but with electronics there is openness. You can develop something on your own without having to go through a prerequisite set of skills to get there. There's not a criteria you have to meet. But you want to get to a level where you're quick with something, and when you want something you can do it. It's a body thing more than a thought thing.

So we see that not only virtuosity, but the seemingly less loaded term *skill* was tricky for some of the interviewed artists, as there is implied in the concept of skill an idea of transmittability, that skill can be known and shared. With the idea that skills can be transferred comes the idea of standards and comparisons to those standards, and this can be problematic in a practice that is varied and shifting, changing constantly. This of course, also muddies the idea of community and what is being shared and defining the community. Joe Ryan, in discussing skills, said this,

I think I have skills, but are they skills others could share or I could teach? They are very idiosyncratic, very local knowledge, local to me. Music is very much about entrepreneurial knowledge. Each great musician has this amazing area where they exist in. But there is a tendency to try and institutionalize musicianship. I like the localness of knowledge, good music is uninstitutionalized. I don't want the gestures I make to become the focus. I'd like to have more skill, but I'm not sure how I could get it without adopting some kind of a standard. There's a conflict between skills and standards. You have to have a standard to be skillful... (Ryan)

We readily see the tension present in Ryan's comment, as he would "like to have more skill" but then brings up the problem of standardization. Ryan brings up key ideas of defining skill, skill acquisition and skill transmission. (I.e., if performance is, as shown by the artists response earlier, a presentation or display of skill, what then is being displayed?) Skill, used colloquially, references ideas of displaying "expertness" (OED), knowledge, learned power and physical dexterity of something specific (Merriam) and "a special ability to do something" (Cambridge). What is challenging about this idea to electro-acoustic improvising musicians is they are working in a realm (music) that has traditions, and traditions are at least partially, recognized by similarities. So when we think of skill in Irish music, we think of one thing, when we think of skill in Bebop, we think of another, but what do we think of when we think of skill in electro-acoustic improvised music? It becomes very idiosyncratic, frequently varying from performer to performer, and as performers develop more and more idiosyncratic systems, the idea of skill as a possible standard is complicated. But by looking at how skill might be acquired, it might inform our ideas of skill and answer how, in such a complex arena, skill can come into play. Skill acquisition as defined by the authors of *Beyond the Learning Curve*,

...learning refers to an organism storing something about its past in memory. Skill acquisition refers to a form of prolonged learning about a family of events. Through many pairings of similar stimuli with particular responses, a person can begin to develop knowledge representations of how to respond in certain situations. These representations have some form of privileged status in memory

because they can be retrieved more easily and reliably than memories of single events. (26)²³

Confirming what musicians know: that practice can bring about skill. But what about standardization and methods of transmission? Skill can be achieved by human to human transmission such as music lessons, but there can also be technology to human transmission (and vice versa), which in an environment with unique instruments allows for the development of skill that may be considered idiosyncratic, or as Joel Ryan said, “local.” That is, skill that is defined only within that system, not to standards outside of the system.

Wadada Leo Smith is very clear that physical and conceptual skill exist in relationship to each other

What makes a master of [this technology] is the person that uses it only for what they need. You see, because, if you look out there in the arena of our community you find that people are using it just exclusively as a way of making music, and it should be used as part of your music but not as a way of making music. I think that Jimi and Miles were able to distinctly understand how to use it and what it was that they could make in their music of it. As opposed to just, like, guys buy jackets just because the jacket looks pretty and they wear it several times because they think someone will like it. But the jacket may be useful for some other reasons, like keeping you warm, giving you pockets to put stuff in. Objects are used primarily because we can afford them and that’s not the reason to use them...I think that a master is one that uses just what they need. It’s both [a physical skill and conceptual skill]. If a person has a lot of arthritis in their ankle they would use the pedal in a very different way, and if a person occasionally gets cramps in their legs they would use it in a very different way, so physically, it shapes how you put it into your music. I think that there is a level of practice that can be done with these

²³ It continues, “Thus skilled behaviours can become routinized and even automatic under some conditions.” Confirming fears that some artists may have about skill, since they want to avoid routine.

devices, and I think probably that the most telling way for me is to try and do it in real time. The practice is, if I'm on stage, and I want to see what depressing this thing will do...it's going to give me some information that I should be able to retain, and that information that I retain is going to effect how I will use it in another setting...so constantly you are mapping areas of information based off of what you do with the physical uses of this pedal based off of how you use it in your music.

The overriding quality of anything, in any field, on any part of the planet—and I won't go into space, I've never been there, yet—on any part of the planet is this notion of creativity. It will glue, it will fix, it will condition, it will construct, it will do everything that is needed. And with creativity you have already taken this device now, as something that you want to manipulate for the best interest of that notion. And so already you don't really have to do this other kind of stuff because you are looking for the creative part to be expressed in that device and you are going to find out how it gets there. Even in live, where you are not practicing, just in the live moment because you are so acute, your attitude is so acute to this zone of creating something it is going to make it useful.



Figure 4.9: Wadada Leo Smith in his house in Ventura, California, November 28, 2012.
Photo by Jeff Kaiser.

Virtuosity is transferred, in the case of Smith, from performance on his traditional instruments and as a composer to the relationship with the electronic tool he is using,

Because you've already spent so much time working on making art... you've spent so many years...that's got to mean something. [That gets projected] into whatever I'm using...The device is enhanced by having me touch it...the touch is reciprocal. The moment you feel it and respond to it it is reciprocating. (2012)

Skill, being a technique, is considered a technology in our original definition from Chapter One. Skill can be seen as related to the concept of remediation, remediation being where media “incorporate or adapt previously existing media” (Lister, 428). Music technologies similarly incorporate or adapt previously existing musical skills, at least in the early stages of development. According to Bolter and Grusin, the very definition of a “medium” as “that which remediates” (65), perhaps skill could be defined similarly here. In his work *Understanding Media*, Marshall McLuhan writes, “...the ‘content of any medium is always another medium. The content of writing is speech, just as the written word is the content of print, and print is the content of the telegraph...” (24-25). Remediation allows, among other things, for people to recognize a medium. In a similar way, if the content of skill is another skill, at least partially and at the beginning, this allows for the recognition of skill in what people are doing musically, and this could account for notions of skill awareness in the musicians interviewed.

How important is skill for these artists? As mentioned several times: there is an acknowledgement by dj sniff, Watkins and others interviewed that virtuosity is real, and is something that people want to see and hear. But how important is it? Do the artists really think about it? Clearly stated by Watkins that it is valued but not really thought about.

I recognize when I hear and experience a virtuosic musician. I absolutely recognize what I feel is real brilliance. And that becomes a trust, that this human will put together a string of excited instruments in a way that will be really deep...I think that the word virtuosity in my world might mean someone who has really lived with their ideas, and have workshopped via whatever manifestation of workshopping is for that individual, to a place where they have a set of strategies that really translate to other people in performance situations...I don't wrap myself around the idea of being a virtuosic musician, I just continue to work daily on my artistic practice and aspire to powerful performances. I don't aspire to be known in such a way [virtuoso]... my particular goal is to make a large percentage of time for my art.



Figure 4.10: Zachary James Watkins setting up his laptop and circuit bending accoutrements, Big Sur, Henry Miller Library, September 9, 2006.
Photo by Jeff Kaiser.

Roy Carroll summarizes the pragmatic position of many of the artists in very practical terms regarding ideas of skill: “The stuff that is useful is what remains, the rest is discarded.”

Chapter 5: Conclusion

Tiny motors removed from their cases then mic'd, processed and amplified.
Solo voices multiplied and manipulated with computers and video game controllers.
Flutes running through complex arrangements of custom software and hardware.
Guitars and trumpets played through stomp boxes. Soft drink containers filled with
ball bearings rattled by subaudible audio. Speaker feedback melodically controlled.
Archaic laboratory equipment plugged into a sound system. Electronic toys 'bent' by
shorting and rerouting electrical pathways.

Musical cultures and communities across time and place are frequently
differentiated by geography, by the instruments used, by notions of style or repertoire,

and by musical function and venues, among other things. EAIM and the interviewees blur and decenter many of these identifying characteristics. Rather than a specific geographical location, the music is transnational in both practice and origin. Whereas many types of music cross national borders today thanks to modern distribution techniques, EAIM was transnational from its beginnings and it grew out of many different musical communities and approaches. There is no standardized EAIM performance practice. Improvisation also decenters ideas of standard repertoire. Instruments are idiosyncratic or are treated idiosyncratically. For instance, the machinic rumblings of Carroll's speaker instruments differ dramatically from the melodic contours of Flanigan's speaker instruments. EAIM musicians aim not to do the same things or at least not to do them the same way. So what is the connecting principle in this music and among these musicians?

I wish to argue that EAIM is a particular type of epistemic community in which the production, conception, and use of knowledge are its primary defining characteristic over and above other musical specifics. The term epistemic community was developed by sociologist Burkart Holzner, along with several co-authors in the 1960s and 70s. He writes:

There are certain work communities for whom epistemic criteria, that is those concerned with the production and use of knowledge, have primacy over other interests or aspects of orientations. Such communities may be organized as formal associations...or they may be structured as informal groups and communities of reference...The key element is the primacy of epistemic criteria for activities that involve the creation of new reality constructs or their application to situations of practice. (107)

This idea of epistemic criteria (“production and use of knowledge”) as being an organizational force for communities has had a particular trajectory in its use, with attention in the sciences²⁴ and in the study of international policy making bodies as developed by Peter Haas,

An epistemic community is a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area. Although an epistemic community may consist of professionals from a variety of disciplines and backgrounds, they have (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices... (3) shared notions of validity- that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise-that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence. (3)

We can see that Haas defines a very specific type of epistemic community with shared beliefs, “shared notions of validity” and a particular use of their knowledge toward the application of providing advice and information to solving issues and problems. This idea is also developed in the sciences as outlined by Morgan Meyer (a postdoctoral researcher at the Centre for the Sociology of Innovation, Ecole des Mines de Paris) and Susan Molyneux-Hodgson (a professor of the sociology of science at University of Sheffield) in their introduction to *The Dynamics of Epistemic*

²⁴ Also, Karin Knorr-Cetina’s work on the related idea of epistemic cultures within knowledge societies. She writes in the introduction about epistemic cultures, referring to them as, “those amalgams of arrangements and mechanisms—bonded through affinity, necessity, and historical coincidence—which, in a given field, make up *how we know what we know*. Epistemic cultures are cultures that create and warrant knowledge, and the premier knowledge institution throughout the world is, still, science” (1).

Communities where the authors discuss the “formation of new collectives around new problems and mediums” in specific locations such as laboratories to networked academics in online meeting rooms. In relationship to these new problems, “the knowledge they produce has to provide solutions (in response) to specific problems; they have to produce ‘usable knowledge.’” Both international policy making and scientific epistemic communities arise from the need to solve a problem. “Epistemic communities, in this reading, seem to emerge almost ‘naturally’ and in a linear way; the policy world has a problem, which calls for the creation of an epistemic community, a community which provides some solutions” (2010).

I wish to go back to Holzner and Marx’s original statements about epistemic communities, which were much more broad than the specific trajectories taken by the sciences and international policy theory. Holzner and Marx wrote, “Any special way of knowing, whose development and elaboration requires the establishment of an autonomous social space, will tend toward the structure of an epistemic community” (109). And while developing their idea of science and epistemic communities, Meyer and Molyneux-Hodgson write,

Rather than reifying and sticking to a singular notion of epistemic community, we believe that cross-linking between different ways of accounting for collectives is needed. Describing the many kinds, forms and dynamics of communities means to widen, rather than restrict, our understanding of what the terms epistemic and community might come to denote. And instead of supposing that epistemic communities exist *a priori*, we have to examine how they come into being, *how they are made and materialised*; which requires exploration of the practices, metaphors, instruments, and discourses that performed and maintain communities. (2010)

Having explored “practices, metaphors, instruments, and discourses” (including object relationships) throughout this dissertation, what are the elements that might lead to the idea that EAIM practitioners form an epistemic community?

The concept of epistemic community can provide a possible framework for understanding how this group of musicians are connected in their diverse practices. At the core are broad shared conceptualizations including concepts such as electro-acoustic, improvisation, novelty, freedom, innovation, creativity and skill. As we look further, we can see that although the instruments differ, they share (in addition to availability and affordability) configurability in that they are frequently designed and constructed by the performers, or in the case of stomp boxes and other hardware, configured via knobs, pedals, buttons and the arranging of the order of devices in a sequence. There is also a shared value in progression of ideas of individuals, rather than an articulation of community. (Strangely, this becomes an articulation of community.) We see within the group of musicians the “social embeddedness of specialized knowledge structures” (Holzner and Marx, 22) where within EAIM these knowledge structures become transpractice, connecting and linking the differing work. EAIM differs from the epistemic communities within science and international policy makers as it is about solving problems in the musical arena, but it shares the varied locations from laboratories such as STEIM to online meeting spaces such as Cycling74’s Max/MSP forum. As explored by Holzner/Marx and Meyer/Molyneux-Hodgson, knowledge application and usability varies, and where the focus has settled

on sciences and politics, there is no reason to limit the concept of epistemic communities to those practices.

EAIM can also be seen as emergent with multiple streams of influence: history, material, practices. These streams are constantly renegotiated in epistemic communities as new language is developed and learned, conventions and interests clarified, even standards explored (Meyer and Molyneux-Hodgson). In a way, this development of a particular knowledge of varying music technologies is an answer to problems posed by musicians such as: how do I make a sound producing machine? Sometimes, in the case of Pamela Z and others, we see the answer before we see the question, i.e., I can multiply my voice and create an ensemble of myself. (Begging the question: how can I more easily create and manage an ensemble?) This discovery, renegotiation and development happens in epistemic communities, according to Holzner and Marx, in what they refer to as “Cultural free spaces.” (Culture here refers to the culture of work communities.)

Cultural free spaces are contexts or domains in which otherwise effective restraints and authoritative strictures are at least partially suspended, lessening controls on thought and action. They are important, but by no means the only or necessarily the dominant sources of innovation...Cultural free spaces must be accomplished by a structural moratorium that releases their participants from at least some aspects of adult role status relationships, obligations, and responsibilities. It is this moratorium that encourages experimentation and innovation with alternative interpretations and behaviors... Cultural free spaces...are predicated on the selective seeking of change and the rewarding of innovation. (111-112)

This harkens back to the discussion of freedom by the interviewees with statements such as: “It’s the freedom that I really cherish” (Chavez), “...so liberating” (Flanigan), “...freeing myself” (Nowitz) and “I feel very free...” (Watkins). With the Holzner quote above, we see an emphasis on the freedom that comes from the absence of obstacles, what philosopher Gary Peter’s referred to as negative freedom, the *freedom-from* that can be most beneficial to ideas of the collective. Here we see a similar negative freedom as release-from. The interviewees describe freedom in a similar way as an experience itself, that although the term has multiple meanings and can be complicated in theory, freedom is understood and acted upon by these artists as a practical idea: that it is a release that it is at its core experiential, an ongoing process, that before you have freedom to do something, you must first have release from that which restrains you.

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