A percussionist's practice

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This dissertation traces the development of my practice as a percussionist through my undergraduate and graduate degrees. Chapter 1, A single stroke engine, details the physicality of a single stroke in a narrative format. This opening chapter situates percussion performance as a physical act, intimately connected to the body. This chapter also serves as a metaphor for percussion playing as gestural, a view that is challenged in the proceeding chapters. Chapter 2, The dystonic hand, is an account of my personal experience with a highly competitive collegiate percussion studio and the discovery of a debilitating neurological disorder affecting my left hand called focal dystonia (FD). This chapter places the idea of the physicality of percussion into sharp relief as I recount my search for a diagnosis, the loss of physical control I experienced, and the various exercises I sought out in an attempt to 're-train' my brain and hand to play percussion with focal dystonia. My efforts to both cope with and discover a music located beyond 'handedness' in percussion performance is the focus of chapter 3, Connections. Here I introduce the fields of experimental music and improvisation, specifically my initial encounter with the music of composer Michael Pisaro, and detail their influence on my efforts to locate a nonvirtuosic/ skilled alternative to contemporary percussion performance practice. My attempts to function as a percussionist with focal dystonia in the 'handed' realms of Brian Ferneyhough's Bone Alphabet (1991) and Iannis Xenakis' Psappha (1975) are also detailed. The final chapter of this document, Toward non-instrumentality, explores the concept of 'non-instrumentality' through the lens of Michael Pisaro's Ricefall (2004). This chapter engages the philosophy of Alain Badiou in order to explicate aspects of non-instrumentality and to imagine its possibilities beyond the world of percussion. Finally, this dissertation concludes with a series of texts detailing my close collaboration with Michael Pisaro and a brief epilogue speculating on the future of an alternative percussive practice.

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A Percussionist’s Practice

A dissertation submitted in partial satisfaction of the requirements for the Degree Doctor of Musical Arts

in

Contemporary Music Performance

by

Gregory William Stuart

Committee in Charge:

Professor Steven Schick, Chair
Professor Rae Armantrout
Professor David Borgo
Professor Charlie Oates
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2009
The Dissertation of Gregory William Stuart is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California, San Diego

2009
DEDICATION

For my parents Thomas and Patricia Stuart. Without your love and support this would not have been possible.
EPIGRAPH

We live in a constellation
Of patches and of pitches,
Not in a single world,
In things said well in music,
On the piano and in speech,
As in the page of poetry—
Thinkers without final thoughts
In an always incipient cosmos.
The way, when we climb a mountain,
Vermont throws itself together.

Wallace Stevens

George Mantor had an iris garden, which he improved each year by throwing out the commoner varieties. One day his attention was called to another very fine iris garden. Jealously he made some inquiries. The garden, it turned out, belonged to the man who collected his garbage.

John Cage
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature Page</td>
<td>iii</td>
</tr>
<tr>
<td>Dedication</td>
<td>iv</td>
</tr>
<tr>
<td>Epigraph</td>
<td>v</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>vi</td>
</tr>
<tr>
<td>List of Figures</td>
<td>viii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>ix</td>
</tr>
<tr>
<td>Vita</td>
<td>x</td>
</tr>
<tr>
<td>Abstract of the Dissertation</td>
<td>xi</td>
</tr>
<tr>
<td>1 A Single Stroke Engine</td>
<td>1</td>
</tr>
<tr>
<td>2 The Dystonic Hand</td>
<td>7</td>
</tr>
<tr>
<td>2.1 Practicing</td>
<td>7</td>
</tr>
<tr>
<td>2.2 Condition</td>
<td>19</td>
</tr>
<tr>
<td>3 Connections</td>
<td>28</td>
</tr>
<tr>
<td>3.1 Undercurrent</td>
<td>28</td>
</tr>
<tr>
<td>3.2 Two Pieces</td>
<td>38</td>
</tr>
<tr>
<td>3.2.1 Bone Alphabet</td>
<td>38</td>
</tr>
<tr>
<td>3.2.2 Psappha</td>
<td>44</td>
</tr>
<tr>
<td>3.3 Handedness</td>
<td>48</td>
</tr>
<tr>
<td>4 Toward Non-Instrumentality</td>
<td>58</td>
</tr>
<tr>
<td>4.1 Contact(s): Ricefall</td>
<td>58</td>
</tr>
</tbody>
</table>
4.2 ‘Multiple’ Percussion. Or, what is a percussion setup? ..........................66
4.2 An Invisible Terrain.............................................................................76
4.4 Constellation......................................................................................87
4.5 Where have you gone, Doris Dennison?..........................................99
APPENDICES..........................................................................................103
Appendix I ..............................................................................................103
Appendix II ..............................................................................................107
Appendix III ............................................................................................108
Appendix IV .............................................................................................111
Appendix V .............................................................................................114
Appendix VI .............................................................................................118
REFERENCES .........................................................................................125
LIST OF FIGURES

Figure 1 — Jürg Frey, *Three Instruments, I*: section 1 .......................... 36

Figure 2 — Jürg Frey, *Three Instruments, I*: section 2 .......................... 36

Figure 3 — Brian Ferneyhough, *Bone Alphabet*: measure 5 ................. 43
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PUBLICATIONS

Michael Pisaro: A wave and waves, Cathnor Recordings 009, 2009

Michael Pisaro: Hearing Metal 1, Edition Wandelweiser Records 0902, 2009


Derek Keller: Impositions and Consequences, Tzadik Records 8032, 2007

Iannis Xenakis: Xenakis Percussion Works, Mode Records 171-173, 2006

Oetz/Wagner/Stuart: Permanent Flow, Accretions Records 037, 2005
ABSTRACT OF THE DISSERTATION

A Percussionist’s Practice

by

Gregory William Stuart

Doctor of Musical Arts in Contemporary Music Performance

University of California, San Diego, 2009

Professor Steven Schick, Chair

This dissertation traces the development of my practice as a percussionist through my undergraduate and graduate degrees. Chapter 1, A Single Stroke Engine, details the physicality of a single stroke in a narrative format. This opening chapter situates percussion performance as a physical act, intimately connected to the body. This chapter also serves as a metaphor for percussion playing as gestural, a view that is challenged in the proceeding chapters. Chapter 2, The Dystonic Hand, is an account of my personal experience with a highly competitive collegiate percussion studio and the discovery of a debilitating neurological disorder affecting my left hand called
focal dystonia (FD). This chapter places the idea of the physicality of percussion into sharp relief as I recount my search for a diagnosis, the loss of physical control I experienced, and the various exercises I sought out in an attempt to ‘re-train’ my brain and hand to play percussion with focal dystonia. My efforts to both cope with and discover a music located beyond ‘handedness’ in percussion performance is the focus of chapter 3, *Connections*. Here I introduce the fields of experimental music and improvisation, specifically my initial encounter with the music of composer Michael Pisaro, and detail their influence on my efforts to locate a non-virtuosic/skilled alternative to contemporary percussion performance practice. My attempts to function as a percussionist with focal dystonia in the ‘handed’ realms of Brian Ferneyhough’s *Bone Alphabet* (1991) and Iannis Xenakis’ *Psappha* (1975) are also detailed. The final chapter of this document, *Toward Non-Instrumentality*, explores the concept of ‘non-instrumentality’ through the lens of Michael Pisaro’s *Ricefall* (2004). This chapter engages the philosophy of Alain Badiou in order to explicate aspects of non-instrumentality and to imagine its possibilities beyond the world of percussion. Finally, this dissertation concludes with a series of texts detailing my close collaboration with Michael Pisaro and a brief epilogue speculating on the future of an alternative percussive practice.
1 A SINGLE STROKE ENGINE

Before Watt's day, the only steam-engine in use...was a rude single-stroke engine. This engine wasted so much fuel...that the expense was not much less than that of employing horses.

—Neil Arnott, 1887

I am standing at drum, feet shoulder-width apart, arms resting at my sides. In my left hand, a stick lays gently in my palm with fingers wrapped loosely around it. It has been several minutes since I last played a sound, enough time to forget not only what the drum sounded like, but also to allow the energy used in the stroke to dissipate throughout the body. During this pause I begin to imagine the next stroke, going carefully over in my mind the series of motions that will be required. Wanting to more deeply understand the mechanics of the stroke, I decide that gestural fireworks are not necessary. This will be, above all, an average stroke, and if all the movements are executed properly, the result will be something like a comfortable mezzo-forte that gets a decent tone out of the drum.

Despite the fact that gold medals will not be awarded as a result of this action, and that it will probably just sound like a dull thud in the next room, I want to be as ‘in-tune’ as possible with my body and the instrument. More than learning to play a challenging solo piece, to sustain a beautiful roll upon its head, or to improvise without blockage between mind and body, I want to understand how the stroke is made. Why? Because this single stroke forms
the basis of my technique. All architecture needs a solid foundation on which stand—with drumming, it starts with a single stroke.

As I imagine this stroke, it becomes clear that I will need to give the drum enough energy to speak but not so much as to overpower its head, rims, and shell. I have played strokes like this before and could most likely execute one without too much forethought. However, I know that a focused mental rehearsal will allow for a deeper understanding of the stroke’s mechanics on both global and local levels. By concentrating on larger motions, I hope to improve the stroke’s fluidity and lightness. By focusing on the smaller motions, I hope to make the stroke more efficient, rapid, and precise. And, if these two layers are successfully integrated, a kind of sympathetic resonance between myself and the drum will result.

The stroke begins in my mind with the slightest bend in my wrist as I imagine the left hand slowly lifting from my side. On cue, the tip of the stick starts to trace what will be a long, elliptical arc towards the ceiling. Like a row of falling dominoes, the forearm soon follows and starts moving upwards, causing the elbow to start to bend past its resting point of an open, 180-degree angle between the forearm and upper arm. Almost all of the elements of the stroke are similar to this initial chain reaction—a wave of energy that travels through the body. Each successive area must accept and transfer the wave’s energy, either through amplification or focusing, to the next step in the chain.
At this point in the process, the focus is on my forearm, which has reached horizontal with the floor, the halfway point in the upstroke. This alignment is only momentary, and I imagine my hand continuing to move skyward, pulling the forearm along with it. As the forearm approaches a 45-degree angle with the floor, my focus shifts towards the elbow, which, besides continuing to bend, has, until this point, barely moved from its resting position beneath the shoulder. With the forearm moving higher it is inevitable that the elbow will move. I note its gentle swing off-axis from the shoulder above. I concentrate on letting the elbow hang from the shoulder as much as possible, to feel its weight, but do not allow this weight to become a chore. Like a tire swing tied to an old oak tree, the elbow will swing at its smoothest only when pushed with the right amount of force (a ‘non-harmonic’ jolt is to be avoided). Accordingly, I make the necessary adjustments to allow the now duo of elbow and forearm to glide as fluidly as possible beneath the shoulder.

While the macro-movements of the forearm and elbow are in the foreground of my awareness, I begin to focus on the plotline of a miniature ballet that is developing in the fingers. Like the tiny fibers at the end of a whip that break the sound barrier when cracked, the utmost care is required when directing the motions that take place at this final connection between body and stick. Not surprisingly, these motions are difficult to unravel because they occurs at the highest velocities, over the smallest distances, and use the smallest movements found in the stroke. Thus as I near the apex of the
upstroke my focus on the fingers intensifies dramatically as they prepare to a) supply the final push in what will become the down-stroke and b) accept the rebound of the stick off the head post-stroke.

With my fingers poised at the height of the upstroke, there is a fraction of a second when I am still. Like a ball thrown into the air that has reached its highest point, my body is calm but is prepared to let the multi-stage spring I have been meticulously coiling start to expand. Thus with the slightest drop in my shoulder and push from the upper arm, I imagine my hand starting to accelerate towards the drum below. I observe the tip of the stick following the edge of a circle as it starts to pick up speed. One by one, the coiled elements of the upstroke uncoil as areas of high-pressure in the musculature experience pressure drops during the acceleration of the stick.

As I imagine my forearm again approaching horizontal with the floor, it seems as if the hand and stick are falling from the sky. Gravity is pulling the stick towards the drum, yet I want the stick to follow a particular arc to the head. As such, a kind of ‘guided falling’ starts to occur between my hand and the stick—one part directs the arc of the stick, the other follows its trajectory. Balance between these two modes is critical. I focus on staying loose, allowing compressed elements of the upstroke to continue their expansion and imagine my entire body sinking into the stroke.

My forearm has now passed horizontal and the elbow has retraced its steps back to its resting point beneath the shoulder. With the elbow in place,
focus shifts to the wrist which, being somewhat out of step with the general uncoiling of the downstroke, has actually been slowly bending back towards the bicep. As the sticks nears the head, the wrist prepares to execute the final whipping motion that will throw the stick forward to the drum. I imagine my wrist snapping forward as my fingers relax and open to allow the stick to pivot smoothly in the palm. The stick is nearly flying in my hand as the tip of the stick nears the point of contact. My hand continues to loosen in preparation for the impending rebound.

“Whack!” The sound hits my eardrums at almost the same time the stick hits the head. Contact passes in a mere fraction of second. As my arm and the stick rebound and slowly come back to rest at my side, I know that the amount of time I have spent executing the stroke is far greater than the time actually spent in direct contact with the instrument. Yet, this mental rehearsal has not been without reward. What is missed in direct contact with the instrument is made up by the fact that I am actually creating an instrument out of my body. The experience of feeling each part of the stroke in slow-motion (i.e., the way a joint opens, the way a muscles flexes, the feeling of the stick in the hand, *etc.*.) will plot new points, expanding my body’s drumming geometry.

Standing at the drum as the sound bounces off the walls and fades away, I know there will be many more rehearsals of this stroke in the future. Each repetition will be a learning opportunity. The trick will be to figure out how to translate this mental rehearsal into an automatic form of martial art while
performing. What can be infinitely broken down in my mind will, with practice, turn into an instinctive reflex—an exquisitely tuned corporeal instrument.
2.1 Practicing

A little over a year into my undergraduate degree at Northwestern University, I started experiencing physical pain. I had played drums from a young age and it was not until this point that I had experienced a performance related injury. So when it became apparent that I was experiencing significant pain in my left hand, and that playing percussion was undoubtedly the cause, it was reason for concern. The pain didn’t appear overnight, however. The process started one day in the practice room when I noticed that a particular four mallet sticking in a marimba piece I was playing did not seem to flow in the right way. What I was doing was not wrong per se, the passage only seemed to give me more trouble than usual. I noticed my left hand seemed to lag behind the right, causing the rhythm I was playing to be unnecessarily differentiated. I was (and am) right handed, but what I was experiencing did not seem like the normal ‘weak vs. dominant hand’ dynamics that most drummers encounter. For whatever reason, my left hand seemed to be doing something different. It was a small, but noticeable difference.

It appeared to be only a minor technical glitch, something that could be fixed with practice. In the context of the music school, how one dealt with such a problem was not a mystery. One would start off slowly, gently
increasing the speed until the desired tempo was reached, all the while making sure to maintain proper technique and sound production. Accordingly, I isolated the passage and turned it into an exercise, playing it from slow to fast and, as was the fashion in the percussion department, in all twelve keys, up and down the marimba. As I practiced, I analyzed my movements to see if I could figure out why my hands seemed to be doing different things, hoping that the extra practice would establish greater parity between the hands.

The passage improved and my technique smoothed out somewhat. However, the additional focus I placed on the passage started a small strain in several of the fingers of my left hand—the pinky and the ring finger. The pain was not excruciating, but it was not going away even with moderate amounts of rest. It was challenging to know what to do because the marimba, and in particular, four-mallet technique, was something that interested me greatly and was rapidly becoming the focus of my studies. I loved playing the instrument. In fact, some of my earliest and most potent memories of percussion include seeing people perform marimba works. ¹ It would not be a stretch to say that

¹ For example, my first percussion teacher Randy Martens’ performance of Mitchell Peters’ Yellow After the Rain left an indelible mark on me at only twelve years of age. Having played percussion for a few years at that point, mostly snare drum and drum set, the sight of someone performing on the marimba with four-mallets was mesmerizing. I immediately began to play more mallet pieces as a result. Another poignant memory was seeing Michael Burritt play his composition Timeless during my audition visit to Northwestern. This performance was captivating.
the marimba was the major factor in my decision to study percussion at the university level.

When I started noticing more pronounced differences between my hands, I was relatively new to playing pieces with four mallets. The pain was most likely being caused by my fledging attempts of learning how to hold an additional stick in each hand. In particular, the outside mallet, which is held by the ring and pinky finger (in the grip I was using), was most likely the culprit, given that I was not accustomed to having those two fingers support the weight of the dangling mallet head. The pain was frustrating; I was, however, motivated to continue on the instrument. With my professor Michael Burritt’s full support, I stopped playing four mallets in order to give my hand some time to recover. As a further precaution on the advice of Michael and others in the music department, I visited the Medical Program for Performing Artists at the Rehabilitation Institute of Chicago to see if they could help me to better understand my pain.

On the recommendation of Doctor Alice Brandfonbrener, founder of the Performing Artists Program and the journal *Medical Problems of Performing Artists*, I started seeing a physical therapist on a weekly basis. The diagnosis, ‘overuse-syndrome’, made perfect sense. I was practicing all the time, playing in numerous ensembles, trying to learn to how play with multiple mallets and working vigorously on my technique at the snare drum and other orchestral instruments. It was a significant amount of playing, but I enjoyed the work and
was committed to finding a solution to my pain. I was motivated to do so because I wanted to return to the marimba as soon as possible.

The physical therapist and I discussed the following issues in detail: what I was doing at the instrument, how the mallets were held, where the pain was centered, how the stroke was produced, etc. She devised a plan of attack for dealing with the problem—a program of stretching, icing, anti-inflammatory medication, small amounts of weight resistance, and reduced playing hours. It was a perfectly reasonable diagnosis and given that I had been playing for nearly ten years without pain, we both felt confident that the pain was nothing more than a minor bump in the road that, with the appropriate response, could be successfully resolved. It should be said, however, that at this point in time understanding what was going on was not particularly difficult. I was playing a lot. And my body was, either due to overuse, a technical flaw, or some combination of both, responding with pain signals.

Reality being notoriously thornier than analysis, however, it soon became apparent that finding a successful path to recovery was going to be much more challenging. While Professor Burritt and my colleagues were fully supportive of my efforts, I found it very difficult to put the brakes on my playing at what seemed to be such a critical phase in my musical and technical development. This difficulty was created by a mixture of my own idiosyncrasies—a non-stop, perfectionist work ethic—and the culture of the percussion program. My left hand would soon be caught in the middle.
Regarding the percussion program, the studio was heavily oriented around improving one’s instrumental technique. I became aware of this aspect of the program shortly after arriving at Northwestern. Despite my inexperience in such a highly formalized percussion environment, I became quite interested in the issues surrounding the advancement of one’s instrumental technique. I remember thinking frequently about what I would need to do to keep up with my peers. Consequently, I started imagining my own arc of technical progression—what piece I would play this week, what *harder* piece I would play next.

Yet, it took real effort to *not* think this way. As percussion students, we played the same pieces that were, whether explicitly stated or not, grouped in a roughly hierarchical ladder of ascending technical challenge. In addition, we auditioned against each other several times a year. This served as a kind of technical barometer, making it hard to not think that the point of being there was to ‘get better’. In addition, the range of possible interpretational strategies for any piece we played was exceedingly small; the range for what constituted a legitimate technical orientation was even smaller (I remember the ‘cross-grip’ and ‘two-step’ mallets being mocked mercilessly).

The entire enterprise had a videogame-like quality to it, the object of which was to beat the marimba solo or orchestral excerpt—as in, “I just scored 93% on that piece.” I can’t imagine that I was the only one who thought this way or felt these pressures. What this environment lacked in options, it clearly
made up for in a very compact definition of how to get better at percussion (which in retrospect, was largely code for how to get better at the marimba). Indeed one didn’t need to spend a lot of time thinking about how to improve, because it had already been decided for us. “Become a better player!” the program said, “Here is how you do it: play the Musser Etudes before the Stout Etudes; play Merlin before Velocities; work on ‘single independent’ strokes before ‘double lateral’ strokes.” I wanted to climb that ladder as much as anyone.

There was not anything necessarily wrong with how the studio’s relationship to repertoire and technique functioned (many students thrived in this environment). However, for someone who was both extremely motivated, and more importantly, in the initial phases of a repetitive strain injury, it was a less than ideal environment. In truth, it was a caustic mixture. So like many musicians, I started to learn (whether consciously or not) ways of playing with pain, either changing my technique to work around it or plowing through it and dealing with the consequences later in order to keep up with my peers. Pain started to become something with which I actively dealt every time I played. Pain became ‘normal’.

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2 Two of the four types of four-mallet strokes are discussed by the American marimbist Leigh Howard Stevens in his influential book Method of Movement for Marimba.
3 See Janet Horvath’s excellent Playing (less) hurt (Minneapolis: Self Published, 2002) for a detailed discussion on the psychology of instrumental performance and repetitive-strain injuries.
The strategy of continually adjusting my technique to compensate for the pain, started producing, quite understandably, conflicting trajectories in my playing. On the one hand, I continued playing more technically demanding pieces, because it was what I wanted to do and what the studio rewarded. On the other, I found it either extremely difficult or impossible to perform tasks that were comparatively much less demanding. My technique started to experience a bizarre kind of erosion—I was becoming more ‘virtuosic’ and less ‘skilled’ at the same time! For example, I could play Iannis Xenakis’ *Rebonds*, one of the most demanding works in the multiple-percussion repertoire, fairly well, but could no longer manage *Three Camps*, a rudimental snare drum piece I learned when I was twelve years old. With this erosion, came a certain amount of denial. I knew I was in pain and that my actions were directly responsible for it. Yet I would use the ‘accomplishment’ of playing more challenging pieces as a way to justify the pain’s existence. I was so driven that I was unable to pull myself out of the studio’s reward structure. The worse things got with my hand, the harder I worked at fixing the problem by practicing. It was a vicious cycle.

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4 In their study on conservatory-based piano playing, Robert R. Alford and Andras Szanto highlight the denial of pain in the pursuit of technical expertise dubbing it a kind of “secret history of pain.” Using historical examples from keyboard pedagogy, the pair illustrate the paradox of how “pain is seen as necessary (‘no pain, no gain’) for virtuosity, but then must be overcome by heroic effort—then denied.” See “Orpheus Wounded: The Experience of Pain in the Professional Worlds of the Piano,” *Theory and Society* 25, no. 1 (1996).
I began to experience very basic problems during my last two years at Northwestern. In certain contexts, merely holding a stick in my left hand was challenging. The pain, which by now had spread throughout my entire arm, was compounded by the fact that I was now experiencing a marked loss of control in the hand. My left hand was genuinely becoming a stranger to me, a blunt club attached to my body. It would stutter frequently, playing notes that I made no conscious effort to play, and was carrying a near constant load of heavy tension during performance. I was not trying to be tense; this tension was only the result of picking up a stick. As a physical strategy, it was in no way sustainable. Yet it was hard to stop because I could still do things that were considered difficult by the standards of the percussion department. Somehow, I was ‘succeeding’.

Indeed the pain and loss of control did not shut down my playing entirely, it merely made it harder to keep moving. So while I continued to play more challenging repertoire, I also had to develop strategies to hide the fact that the more basic techniques were impossible for me to execute. This required a considerable amount of extra energy. My practice of percussion was becoming not only physically taxing but also emotionally draining. For example, I remember one of the auditions I played for placement in the school’s various large ensembles. With Professor Burritt and several grad students behind the screen, I started playing the xylophone portion of the audition. It was not a particularly challenging passage but I could not play it
that day; my left hand was in a world of its own. I stopped and started constantly and one could hear my left hand shaking against the bars (this was not due to ‘stage fright’). I wondered what the point of the screen was when it was so obvious to everyone involved that I was the one on the other side! I was completely embarrassed and, as expected, found myself at the bottom of the pool of percussionists in the audition results. Needless to say, because of this experience and others like it, I was miserable most of the time.

Through the end of my time at Northwestern and the duration of my masters degree at UCSD (which I started immediately after Northwestern), I continued to be ensconced in the problems of my left hand. I sought help from a wide range of disciplines, trying everything from Alexander technique to acupuncture, Rolfing (a very intense form of body work) to hypnosis, trigger point therapy to yoga. Nothing helped. The issue my left hand completely dominated me as a percussionist. For example, my thought process about selecting a new piece was entirely dictated by the left hand. No longer did I think in terms of if I wanted to play a certain piece, the major question became if I could physically survive it, or if my left hand could function in the piece without somehow embarrassing myself. The prospect of playing a new piece was always an anxiety-causing affair and I would need to meticulously examine a score for anything that might cause my left hand trouble. Even though UCSD offered a welcome change from the pressure and rigidity of Northwestern, by the end of the masters there was almost nothing I genuinely
felt comfortable doing as a percussionist. I had two hands, but only one of them was mine. I kept practicing in the hope that I could turn things around. This is how one (re)gains technique? I was trying to be as diligent about it as I could but playing percussion with the problems I was experiencing was like driving a car with a flat tire. One goes in a circle (but perhaps the radius is so wide that it is not apparent as such). Eventually, the tire wears down and the rim starts grinding on the pavement. At this point, the car is still moving, but it is not a lot of fun to drive—nor is it good for the car. Sparks flying, the engine overheating, I had to call it quits—my left hand was genuinely fried. I left California and played almost nothing for the next two years.

Never one to leave things alone, I started researching what happened to my hand. I stopped playing and started reading about musician’s injuries. There was a part of me that, even if I never played another note again, wanted to know what had happened. I needed a concrete answer, like a diagnosis such as my hand was missing a particular bone. I needed some kind of closure to the experience. I had spent too much time and energy to feel otherwise. Over the previous six years I thought frequently about repetitive strain injuries (which I no doubt had), but there was still something frustratingly vague about a diagnosis of ‘overuse-syndrome’. Of course I knew I was using my hand a lot! More precisely, the diagnosis did not explain why my particular hand—that is, while I was playing a great deal, it was not qualitatively more than anyone else I knew. In addition, ‘overuse syndrome’ was silent on the
lack of control and dexterity I was experiencing. I could accept the diagnosis of ‘overuse’ on some level, but it did not seem complete.

Regarding this lack of control, I began looking into why my left wrist had developed a tendency to turn counter-clockwise whenever I picked up a stick until the palm directly faced the ceiling. I was not controlling this action, it would just happen when I tried to play. I could ‘fight’ it, but eventually the wrist would turn over. The odd thing about it was that my hand felt ‘connected’ in this position—that is, it felt like I was in more control of the hand. This could have been useful except that the orientation implied that any surface I played on would have needed to be upside down and right side up simultaneously, since one stroke would be going to the floor, the other towards the ceiling!

I came across ‘nerve-entrapment syndromes’ in my reading and saw a degree of similarity in the aforementioned uncontrollable motion of my wrist. Perhaps I had a nerve that was being impinged upon, and this was causing the wrist to turn? The pain would have been created by all of the modifications, both large and small, in my technique that I made to compensate for the loss of control in my hand. The techniques I created as a result of this process were designed to play only extremely challenging solo works, usually loud and fast ones, leaving me with no ‘ground-floor’, no ‘sensitivity’ of touch. Indeed what began as a relatively benign observation of a trivial technical shortcoming had grown into a hand that was completely lost to me. All I could do was
‘thrash’ at an instrument, like a fish in a couple inches of water. Maybe this was a result of a nerve impingement?

Nerve entrapment made a certain level of sense to me, so I visited an orthopedist at the University of Minnesota. After hearing my symptoms and conducting a few tests, the doctor determined that I did have nerve entrapment, in particular, entrapment of the posterior interosseous nerve (PIN).\(^5\) This was, in his judgment, the reason why my wrist was turning over (a common motion in PIN entrapment). This was also the reason why I felt a lack of precision in my hand in general. He advised that I could go the non-invasive route of stretching, medication, and rest, but it would be best to surgically decompress the nerve. The surgical option would greatly reduce the potential for the compression to happen again, which, in his experience, was a distinct possibility. While I was relieved to receive such a direct, no-nonsense diagnosis, the prospect of surgery made me very uncomfortable. The doctor advised me of the various risks involved, and despite the relative safety of the procedure, I was still quite nervous. Once you cut open your arm, there is no going back. It was a difficult decision but in the end I opted against the surgery. My reasoning was that while my hand might have been ‘dysfunctional’ when it came to playing percussion, it caused me no coordination problems otherwise. The risk did not seem worth it. I did not want to stare at a scar for the rest of my life.

2.2 Condition

Relieved that I decided against surgery, I continued reading about nerve entrapments and anything else that might help. I am not sure why I continued to search for answers since the orthopedist’s assessment was so direct. Perhaps my perseverance was a result of the part of me that placed the blame for what happened on myself. My reasoning was that even if there was something genuinely wrong with my hand, it was the result of my own musical shortcomings. I felt that I should have been able to find solutions to those problems. The fact that what I was experiencing was difficult to explain, that I did not feel like I was ‘in control’ of my hand, only made matters worse. The immediate response to my dilemma was usually that I could only be experiencing some kind of psychosomatic trauma. I continued to research the problem to offset the feeling that what I was experiencing was somehow all in my head. Eventually, I came across a condition called Focal Dystonia (FD). I read the experiences of numerous musicians who had developed the condition. A sizable portion of these histories was unmistakably similar to my own.\(^6\)

Dystonia is a neurologically-based movement disorder that causes uncontrollable, sustained muscle contractions resulting in abnormal postures.

\(^6\) For example, http://www.dystonia-bb.org/forums/mwd/, a bulletin board for musicians with focal dystonia, provided numerous personal histories that were helpful in researching the condition.
and/or repetitive motions. ‘Focal’ dystonias affect single regions of the body (i.e., the face, neck, upper extremities, etc.) and can also be ‘task-specific’, as is the case in ‘writer’s cramp’, a well-known form of the disorder. A person with writer’s cramp might be perfectly capable of manipulating a wide range of objects with the hand, except a pen when trying to write, which invariably causes uncontrollable contortions and the inability to write legibly. FD is thus an ‘occupational cramp’. The condition itself is painless, but can cause pain as a result of the contortions it produces. The etiology of FD is not fully understood but is most likely multifactorial, resulting from a complex interaction between various genetic predispositions and environmental factors. There is no known cure for the condition. While a few treatment strategies have shown some success—most notably, botox injections, anticholinergic medications, and sensory retraining—FD is, for most musicians who develop the condition, “highly disabling and in many cases terminates musical careers.” While much of why FD develops remains unknown, researchers have determined that risk factors include “male gender, extensive cumulative practice time, extreme motor workload concerning temporal and spatial quality of the affected

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7 See Frank Clifford Rose, Neurology of the Arts (London: Imperial College Press, 2004), 159.  
8 Ibid.  
movements and personality traits such as proneness to anxiety and perfectionism.” FD is said to affect about 1% of all musicians.  

While much is still unknown about FD the underlying problem is well understood, and lies in the brain’s representation of the body in primary sensory cortex, where a ‘map’ of the entire body is located. In the case of the hand, a normal representation contains five sharply defined regions for each finger on each hand. Each digit is mapped to a particular region of the cortex. A person with FD of the hand, however, has a cortical representation in which two or more digits are blurred. Therefore it is possible for contact with a single finger—for instance, touching a table with the ring finger—to be interpreted in the brain as contact with the ring finger and/or the middle finger.

A blurred cortical representation is the essence of FD and in addition to hands, blurring can also occur with respect to the lips, in the case of ‘embouchure dystonia’ in wind players. The most studied instance of the condition, however, is the pianist whose fingers (typically the third and the forth) curl up uncontrollably.

The foundational work on cortical misrepresentation was done by UCSF’s Nancy Byl in an experiment in which she trained two Owl monkeys to

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11 See Jasbusch and Altenmüller, 256.
repetitively close a small, hand-shaped device over a period of twenty weeks.\textsuperscript{13} Through the repetition of this task, which was carefully designed to force rapid opening/closing of the hand and spreading of the fingers and thumb to touch specific targets, Byl was able effectively ‘cross-wire’ the monkey’s cortical representations of the fingers. Drawing on insights from the study, Byl reported to the 1999 meeting of the Society for Neuroscience that:

Rapid, repetitive, highly stereotypic movements applied in a learning context can actively degrade cortical representations of sensory information guiding fine motor movements...Near-simultaneous, coincident repetitive inputs to the skin, muscles, joints and tendons of the hand may cause the primary sensory cortex in the brain to lose its ability to differentiate between stimuli received from various parts of the hand.\textsuperscript{14}

The motor problems caused by the blurring of adjacent digits in the monkey’s cortical representations was observed by Byl to be similar to those described by human patients, consisting of “uncontrollable movements of the digits, co-contractions of flexors and extensors, difficulty releasing the flexed posture of the digits, or the inability to perform delicate fine motor movements quickly and accurately.”\textsuperscript{15}

The combination of Byl’s work and reading the stories of musicians who had the condition was convincing to me. The stories and descriptions I read

were eerily similar to my own. Yet it was hard to know how to proceed with this information because it was so dismaying. I read a few cases of people returning to performance, or switching instruments, but most just stopped playing music all together, or no longer played professionally. Even though I was learning what a disaster FD was, there was part of me that thought, somehow, someway, I could continue working. I had no idea what that would mean, but I had been a performer of music for so long that it was difficult to think of myself as doing anything else. I had been out of school for some time when I learned about FD and it was clear that I needed to make some kind of decision about what to do. The two possible decisions were to either continue in music or to do something else completely unrelated. For example, I thought seriously about going to law school. In all honesty, I was not particularly excited by either prospect—music or no music. Having to decide between the two was paralyzing, like having to decide if one would rather cut off one’s leg or stab oneself in the eye.

Eventually, I made a decision. I cannot totally account for the reasons why—was it because I was afraid that stopping would amount to an admission of ‘failure’, or, conversely, did I really love music?—but I decided to return to UCSD for the DMA. Several long conversations with Steven Schick about what I might do during the doctorate were invaluable in convincing me that it would be possible to find a way to work in percussion that would not only interest me but would also, and more importantly, not hurt. There was a glimmer of hope.
And after all, this was *percussion*, a field with seemingly unending potentials, right?

So with a renewed interest in music, and a fairly strong hunch that I had FD, I returned to California for the DMA. One of the first things I did was to see a neurologist who specialized in FD. In his judgment I had the condition beyond a doubt, adding that a nerve entrapment diagnosis was not unusual for someone with focal dystonia because some of the symptoms can overlap. We tried several different treatments, a botox injection into select muscles in the arm (this was a hideously painful procedure), and an anticholinergic medication, both of which were aimed at relaxing improperly contracting muscles. None of the treatments provided significant relief. It was disappointing, but I was pleased to finally have a name for the problem.

Still interested in pursuing FD, I wrote to Nancy Byl. I read that she developed a different way of treating the disorder. She mentioned that her colleague, Allison McKenzie, worked at Chapman University in Orange County, a short distance from San Diego. Allison was kind enough to see me *pro bono* and I started working with her twice a month. During the first visit she did a kind of ‘field test’ for FD on my hand. Unlike the neurologist, who simply listened to what I had to say, Alison had actual physical tests that could potentially confirm or deny a diagnosis of FD. I will never forget these tests. She explained them to me: she would either draw simple patterns (*i.e.*, figure-eights, circles, ‘X’s, ‘T’s, *etc.*) on my hands or lightly touch them at select
points with a small, metal pointer. My eyes were to remain closed during the
tests so that no visual information could be used to determine where the hand
had been touched or what pattern had been drawn. It did not sound
challenging at all. In fact, I thought I was going to pass easily and then go
back to not knowing what was wrong. Someone is going to draw an ‘X’ on my
hand. How hard can this be?

It was next to impossible. She would draw a ‘T’ that I would interpret as
a circle. She would touch my pinky. I said it was my ring finger. She would ask
me to touch the finger she had just touched and I would miss my hand
altogether. She asked where my hand was just touched and I would laugh
because I had no idea. It was incredibly humbling. She tabulated my results
and I scored solidly inside the range of people with FD. On several of the
tasks, she said I was the worst she had ever seen, adding that if one doesn’t
have FD, these tests are easy, akin to asking someone to count how many
fingers you are holding up.

The interesting aspect about working with Alison was that her approach
to the condition was, unlike the neurologist, completely non-invasive and
involved a ‘sensory retraining’ that focused on reversing the degenerative
process of acquiring FD. She explained that all the years I spent practicing,
ostensibly to improve my technique, I was actually scrambling the cortical
representation of my fingers and hand. As a result, the action of making a
stroke, which is comprised of a complex series of steps involving large and
small muscle groups that must be executed in the right order, became a giant ‘knot’ of motion. It explained perfectly why there were times I felt as if my left hand was ‘sticking’ to whatever surface I was playing: the muscles involved in the upstroke and the downstroke were firing simultaneously (i.e., agonist and antagonist muscle groups in direct conflict). It also explained all of the extraneous motions in the fingers of my left hand that I noticed in videos of myself playing. My fingers would quickly jut out from the stick only to return seconds later. And, the harder I tried to fix the problem, the worse it got:

The musician begins to realize that he is losing control of his fingers or his lips and that a particular digit or digits are becoming disobedient and will not do what he requires…A constant feature [of FD] is that the harder the musician tries to correct the problem, the worse it becomes. One must counsel against such strenuous efforts as they are seriously counterproductive.  

I had in certain sense ‘practiced’ myself into this condition. Practice, in this case, did not make perfect. In fact, as Alison explained, practice, even an incredibly reduced regime, would not necessarily improve the brain’s map of the fingers. What needed to be done was to simply give the hand other things to do, to retrain it, anything that would provide a novel sensory experience. So we tried seemingly simple physical tasks. Things like finding a dime in bowl of beans, figuring out the number of holes on the top of a domino, touching different textured surfaces—anything that would provide a new and different

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sensorial experience to the hand in place of the dystonic movements I had developed playing percussion.¹⁷

This process of ‘retuning’ the brain is purposely isolated to one finger at a time—it does not work otherwise—because it helps to remind the brain that the first finger, for example, is in fact separate from the adjacent digits of the thumb and middle finger. If these kinds of exercises are done diligently over an extended period of time, it is possible to redefine the brain’s digital map to some degree. This is by no means an easy task, and can take as long, if not longer than, the acquisition process. The reason it is possible to redifferentiate the brain’s sensory map is that the brain has a certain inherent level of plasticity—that is, it has the capacity to alter some of its structures via environmental factors. In fact, learning to play an instrument at a high level of skill is itself an example of plasticity. With sensory retraining, one is essentially asking the brain to be plastic in reverse. Thus if my brain had established an aberrant understanding of the stroke through its own plasticity, this plasticity would be used to retrain the brain. We would attempt to untie the knot, one strand at a time. It was not going to be easy, but having to stop one’s musical pursuits due to FD was not necessarily a forgone conclusion. I dipped my finger into a bowl of beans.

¹⁷ These types of exercises come from Nancy Byl’s, “Handbook for Patients with Repetitive Strain Injury of the Upper Extremity (Including Focal Hand Dystonia),” (San Francisco: Self-published, 2000).
3 CONNECTIONS

3.1 Undercurrent

While I was unknowingly acquiring focal dystonia during my time at Northwestern, there was, running alongside the more virtuosic material I was playing, a small subset of music with which I regularly engaged that did not aggravate any of the physical problems I normally experienced. This subset was ‘experimental music’, a practice comprised of network of musicians whose work (more or less) coalesced around the influence of John Cage.

My first encounter with this music was in 1997 when I attended a concert of Michael’s Pisaro’s within (5) (1997), a ninety-minute trombone solo performed by Craig Shepard in Lutkin Hall on the Northwestern campus. I remember being intrigued when I saw the flyers for the concert. I did not know Michael or his music, but at that point in time my musical universe was firmly rooted in the sounds of hip-hop, classic rock, jazz, and percussion repertoire. In particular, I was playing a large-scale piece in the wind ensemble by Michael Colgrass, Arctic Dreams (1991). This piece was particularly exciting to me because, among other things, I had never worked with such a large setup of instruments before. The large setups Colgrass required were a kind of percussive Valhalla for someone used to playing snare drum or cymbal parts. With arctic visions heavy on my mind, and perhaps because I didn’t
have anything indexed in my experiences under the heading ‘ninety-minute trombone solo’, I imagined that within (5) was going to be a Colgrassian piece for the trombone.

I envisioned I would hear Craig play long, flowing lines and driving rhythmic ostinatos, employing highly distinctive and colorful harmonic collections. The piece would, of course, be a tone poem, conjuring up vivid images of icebergs cleaving, the aurora borealis radiating deep blues and greens, and packs of wolves running across the tundra in search of food. Craig would probably collapse into a pool of sweat after the piece, having covered the entire range of his trombone many times, in what would no doubt be a tour de force performance. It would be epic.

I arrived at the concert on time, taking my seat along with the small crowd that had come to see Craig perform. Much to my surprise, after he bowed, he simply sat down in the chair on stage with his trombone in his lap for what seemed like an eternity before playing a single sound! Perhaps this was the composer’s way of building the dramatic tension, a way of cleansing the palate before the aural fireworks began? When he finally did play, however, it was just a single tone held at soft dynamic for perhaps ten seconds instead of the bold, Colgrassian figure I anticipated. A warm up note, perhaps? Yet after a pause of roughly equal duration to the initial tone, the tone reappeared and again sounded at a soft dynamic for around ten seconds. What was going on?
This alternation of tone and silence—always the same pitch and always in equal proportion to the silence—went on for some time. Then there was another long silence. We were not far into the piece at this point, and given the performance was advertised as being ninety-minutes long, I wondered what else was in store. Perhaps what I heard was the first ‘section’? After the second long silence, Craig started the alternating procedure again, this time on a new pitch. This continued for a while and was followed again by a silence. After what seemed like a half hour or so, it became clear that this was all that was to transpire.

Having no idea what to make of this kind of material, I sat back in my seat, tried to settle into the rhythm of things, and listened to the sound of Craig’s trombone and Lutkin Hall for the remaining hour. After the concert I asked Michael how long the silences between the tone sections were and he said that they were around five minutes each. I remember this being very surprising because, by the end, they seemed to pass in no time at all, thirty seconds or a minute perhaps. I then asked what he was trying to achieve with a piece like this. He said something about rubbing very fine sandpaper on a surface.

I would like to say that I immediately connected with this performance, or that I instantly fell in love with experimental music. The truth of the matter is that it was a very perplexing experience. Indeed within (5) was so far removed from any kind of music (or performance) I had ever experienced, that my
reaction was simply one of curiosity. Five-minute silences? Single tones? Ninety minutes at a piano dynamic? This was the fifth (!) piece in a series called ‘within’? Sandpaper?

Hoping to answer some of those questions, I enrolled in Michael's Experimental Music Workshop shortly thereafter to see if I could discover what lay beneath the surface of within (5). Each week, the class played, discussed, read articles about, and listened to recordings of pieces from the experimental tradition by composers such as John Cage, Robert Ashley, Morton Feldman, Pauline Oliveros, George Brecht, Yoko Ono, and Alvin Lucier, among others. We also spent a fair amount of time each week working on pieces that students would write for the class ensemble.

It quickly became apparent that the workshop constituted an entirely different world from the one I inhabited in the practice room or in the percussion studio. The most striking difference to me was the fact that no one was explicitly concerned with ‘instrumental technique’ (if we take the term to mean something that one would associate with something like a ‘method book’ or a ‘repertoire’). As a consequence, it made thinking about what was going on with my hand, at least during the class periods, seem largely irrelevant. This is not at all to say that the pieces on which we worked did not require ‘techniques’, rather that the procedures tended to be non-virtuosic, often bearing little relation to anything you might call a ‘traditional’ orientation to the instruments played by the class members. In fact, I remember performing
several pieces on instruments I had never even seen before—for instance, the oud, a fretless lute-like instrument used in Middle Eastern music. Moreover, many of the techniques we employed, in the event-based scores of George Brecht’s *Water Yam* (1963) for example, did not even require instruments—sawing a board, pouring water into a bowl, tearing a piece of paper, *etc.* These kinds of ‘everyday’ actions produced sound just as well as anything else and were the perfect tools for Brecht’s scores and other pieces in the workshop.

Although we did play pieces that required a certain degree of traditional instrumental technique—Terry Riley’s *In C* (1964) for example—the vast majority of pieces were open environments that seemed much more like ‘music for people’ than ‘music for musicians’. Being a ‘musician’, it turned out, was neither an advantage nor disadvantage when it came to these scores. A piece like Christian Wolff’s *Stones* (1968) perhaps best typifies this open state of affairs:

Make sounds with stones, draw sounds out of stones, using a number of sizes and kinds (and colors); for the most part discretely; sometimes in rapid sequences. For the most part striking stones with stones, but also stones on other surfaces (inside the open head of a drum, for instance) or other than struck (bowed, for instance, or amplified). Do not break anything.¹

From this description, it is difficult to imagine a player who would be unable to produce a version of this piece. Correspondingly, it is also difficult, if not

impossible, to imagine the number of ways in which the score could be potentially realized. We worked on Stones for several class periods, exploring the various potentials of the stones we had gathered from the surrounding area. One of the many interesting aspects of Stones was that not only did one need not to be an expert ‘stone player’, but that the piece also created a situation in which the very meaning of being such an expert was uncertain or irrelevant. The score simply asked that one be open to the possibility of making music with stones. What the score seemingly lacked in structural details, it more than made up for in the palpable sense of collaboration and dialogue it fostered amongst the performers. Indeed Wolff leaves so much out of the score that the performers are asked to begin with some really basic questions about what the piece will be. I found working with these issues interesting because it often meant assuming a multiplicity of roles in a single piece. Wolff explains:

To turn the making of music into a collaborative and transforming activity (performer into composer into listener into composer into performer, etc.), the cooperative character of the activity to the exact source of the music. To stir up, through the production of the music, a sense of social conditions in which we live and of how these might be changed.²

The music we made with Stones not only sounded unlike anything with which I was familiar, but it was also produced in radically different way. Stones addressed the site of musical production in a direct manner. For example, it

allowed us to work with issues of both global structure and local texture (more or less) from the start. The capacity for experimental scores to demand involvement on a multiplicity of levels is striking. This quality is perhaps most distilled in Cage’s Variations III. This piece features a tool-kit like score in which the performers are asked to construct nearly everything that occurs in the piece.\(^3\) Variations III and Stones allow the performers to make many different kinds of decisions, so many in fact, that it is often the case that a kind of distance emerges between, one the one hand, what is seen in the score, and on the other, what is heard in a performance. Traveling this distance is what makes these kinds of pieces so interesting and we were often quite surprised by what would happen in our classroom performances.

With a new distance between ‘score’ and ‘performance’ emerging, I began seeking pieces by composers from the class whose works might more directly inform my own solo playing. Being a dedicated percussion student, however, I did not yet see the potential in scores that called for either novel instrumentations, like Stones, or a completely indeterminate ones, like the pieces from Lamont Young’s Compositions 1960, as potentially being ‘percussion pieces’.\(^4\) While it was interesting to play a piece using stones or bowl of water, or to create a cymbal part for a page of Cornelius Cardew’s

\(^3\) Cage’s Variations III (1963) consists of a set of 42 circles printed in black on a transparent sheet to be cut out by the performer. The circles are allowed to fall onto a single sheet which becomes the performance score. While Cage does not provide any actions for how sound is to be made in the piece, the score does include a method of how the circles may be read.

\(^4\) The entirety of the instructions from piece #15 in the series, “This piece is little whirlpools out in the middle of the ocean.”
graphic score *Treatise* (1963-1967), I was at a loss for how it related to what I was doing in the percussion department. Indeed my musical tools were unable to translate my experiences in the workshop into something that had the same legitimacy as a certified ‘percussion solo’.

Yet I had a desire to connect these two worlds. A piece capable of crossing the divide would have to be, in certain parameters, conservative. First, it should be written for the sorts of percussion instruments available in the percussion department (drums, keyboards, cymbals, gongs, *etc.*). Second, it should be far less radical in its notation than the majority of the pieces we encountered in the workshop. The score should contain, for instance, actual notes, notated rhythms, dynamics, and tempo(s). A score that contained these elements would not necessarily be conservative itself. Yet without these conceptual signposts, I would have been unable to forge a meaningful connection between the workshop and my percussion studies.

I found an answer with the handful of understated solos in Jürg Frey’s *Three Instruments, Series I-XVIII* (1998)—a collection of solos, duos and trios for percussion, violin and clarinet.\(^5\) Given my focus on increasingly demanding multiple-percussion pieces and my physical capacities at the marimba, the solos in *Three Instruments* represented a sharp departure. All of Frey’s pieces were written in traditional notation—albeit Jürg’s highly idiosyncratic handwriting that resembles something like the mutant offspring of a Feldman-

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\(^5\) Frey came to Northwestern as Michael Pisaro’s guest. I volunteered to play some of the pieces.
Xenakis cross, with an extreme case of nearsightedness. The pieces were also written for standard percussion instruments. Having both of the required elements, notation and instrumentation, I began the learning process.

The first piece from *Three Instruments* is a solo for bass drum and two bell-plates. (See Figures 1 and 2).

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**Figure 1** – Jürg Frey, *Three Instruments*: #1, first section excerpt.

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**Figure 2** – Jürg Frey, *Three Instruments*: #1, second section excerpt.
Divided into two sections, this piece consists of a series of two or three note chords at a slow and regular pulse in the first section, followed by a series of one to three-note taps on the bass drum in the second section. Around eight minutes in duration, the work is performed at a soft dynamic and also includes a fair amount of silence. This piece was at odds with the approach of the percussion program in that it presented very little, if any, technical challenge. Yet I understood the piece as percussion playing because the score contained many of the elements I was accustomed to seeing in percussion scores. Despite not requiring a high level of ‘expertise’, there was something compelling in listening to the differences of how a chord in the first section would sound if it contained either all three of the instruments or just one of the bell-plates and the bass drum. Stripped of my typical corporeal concerns, I began to focus on how the resonances of each instrument overlapped and mixed from chord to chord. These were small changes, yet in the context of this piece, they took on critical roles.

In retrospect, playing this piece would be the very first instance in a slow change in the way I thought about percussion and technique—a difficult decoupling of the sound the ear received from the technique that produced it. Thus buried inside my final recital at Northwestern, which consisted almost entirely of well-known virtuosic percussion pieces, sat Frey’s little piece—practically in the corner of the room!—slowing and softly turning out long, resonant sonorities of metal and skin.
My encounter with *within (5)* initiated a faint undercurrent in my playing, that of physically reduced experimental works, which would continue quietly in the background many years.\(^6\) This undercurrent would surge to the surface in later years, and go on to frame some of the most meaningful questions about my practice as a percussionist.

### 3.2 Two Pieces

#### 3.2.1 Bone Alphabet

I was a different percussionist when I arrived back at UCSD in 2004. Having been on the verge of quitting percussion for years due to physical problems, I felt a renewed sense of possibility in what the DMA might hold. Taking the time off had been the right decision. I no longer felt like I was on complete musical auto-pilot and hit the ground running on two fronts: 1) the sensory retraining of my left hand with Alison McKenzie and 2) the exploration of percussion and gesture with Steven Schick. While these two tasks might have at first seemed contradictory—wasn’t it playing percussion that was causing the problem in the first place?—they in fact turned out to compliment each other quite nicely.

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\(^6\) The performance of Frey’s concert-length quartet *Metal, Stone, Skin, Foliage, Air* (1996-2001) at UCSD’s *Time Forms* festival in 2002 was particularly important to me.
With Alison, I focused on incredibly small motions and sensorial discriminations, noting the differences, for example, between a small button, a dime, and a cotton ball with one finger at a time. These exercises would hopefully start to reacquaint my brain with the left hand, ultimately redefining an image that had been blurred after years of repetitive motions. With Steven, the focus would be on the understandably larger motions of percussion playing. We set out to find pieces that would allow me to break the various gestural molds in which I had effectively trapped myself while acquiring focal dystonia.

The first piece Steven and I selected was Brian Ferneyhough’s *Bone Alphabet* (1991). Written for seven unspecified instruments and containing some of the thorniest rhythms ever written for a percussionist, it was not an obvious first choice given my sensory retraining. The piece was, above all, incredibly challenging to play, requiring continuous rapid-fire execution. There were, however, aspects of the piece that were potentially useful. For example, one of the things that was most challenging to me as a percussionist with focal dystonia was playing things evenly—for instance, a running stream of sixteenth notes at a moderate tempo. My inability to do such things would not be a problem in *Bone Alphabet* because the gait of the rhythmic proceedings changed from measure to measure. The spastic nature of Ferneyhough’s rhythms would therefore be more amenable to a hand that also stuttered. Moreover, in addition to *Bone Alphabet’s* multi-layered rhythmic complexity, it
also offered the performer equally rich palettes for dynamics, tempos, phrasings, articulations, and performance indications. Typical of Ferneyhough’s notational practice, the score presents the performer with a total saturation of standard Western musical notation. Instead of seeing this overabundance as constraining, it would be necessary to admit that the score purposely contained many more options than any single performance could ever hope to represent. A major component of working on the piece would therefore be centered on the issue of what ‘reading’ a score meant. This focus would, hopefully, shift some of the weight of the interpretation off of the hand. Ferneyhough explains:

What I’m really concerned with is [the performer] sensing the variable distance, as it were, between the image, the possible sound which may emerge from realizing that image, and the degree of difficulty with which the instrumentalist must confront himself in order to produce that result.

Having come to the best terms I could with Bone Alphabet’s sea of options, I began work on the piece. My aim here, beyond simply learning the piece, was to reinforce what I was doing with Alison. Consequently, I made several decisions early in the learning process to support this objective. I would not approach the piece like the majority of my colleagues—that is, I would not use any secondary processes for the deciphering of Ferneyhough’s dense

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rhythmic language. Here I refer to methods such as transposing the rhythms on to graph paper in order to more fully understand the rhythmic intricacies of the score. I have nothing against this or other methods. Yet I knew that if I started to overly concern myself with rhythmic fidelity, I would likely find myself in a negative feedback loop not unlike focal dystonia. In other words, the harder I would try to make the rhythms ‘correct’, the worse they would become, which would in turn only cause me to try harder. Thus in an effort to prevent the piece from simply becoming a Herculean rhythmic etude, I decoded the rhythms as I would any other work in standard rhythmic notation. Typically, I found some part of any given bar that I could understand, and then fit the remaining rhythms around this guidepost. I did not use a metronome and relied instead upon my own internal memory of various tempos. Learning rhythm in this way became a kind of corporeal activity, one in which the body and the ear were the ultimate barometers of success.

While these strategies were helpful in decoding a single bar, they offered little in the way of guidance for how I could crack my own internal movement tics on a more global level (i.e., multi-measure phrases).

Fortunately, an answer came from the score itself, by way of the highly suggestive, oftentimes poetic, performance instructions accompanying the first bar of nearly every multi-measure section of the piece (areas of ‘comportment’

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My colleague, Ross Karre, devised an interesting alternative to the graph paper approach that involved using a word processing program’s graphic tools to produce highly accurate space–time ‘dot-scores’ of the piece.
in Ferneyhough’s terminology). These instructions might have seemed out of place to a certain extent. For example, in the case of measure 5, ‘capriccioso’ above a bar that starts with a 17:16, 64th note rhythm? In exactly what part of playing a mere 1.0625 times faster than normal 64th notes was one supposed to be whimsical? (See Figure 3).

Figure 3 – Brian Ferneyhough, Bone Alphabet, measure 5.

Steven’s insistence upon the importance of these indications was crucial. They allowed me to think of moving in ways that laid outside my normal approach. The question then became how to let those terms influence the movement of the body. How does one be capricious with 17:16 anyway? The answer was, not unexpectedly, a way of moving that was transversal to my more ingrained patterns. As a result of this process, each multi-measure section became a kind of corporeal tableau—one moment I would ask my body to imagine motion that was ‘in modo analitico’, the next, ‘violentissimo’, 
and the next, ‘comodo’. It was sensory retraining on a macro-level via Ferneyhough’s ‘theater of the body’.

On a more technical level, the piece required four-mallet playing, and I discovered that my left hand actually had decent control in the outside mallet of the ‘cross-grip’ that I was using to play the piece. I experimented with this grip during my masters but *Bone Alphabet* was the first solo that I had ever played with four sticks, cross-grip or otherwise. The level of control I had with the outside stick was genuinely surprising and I quickly shifted a large load of the playing to this mallet. The inside stick, which is held in a manner similar to how one holds a single stick (as with snare drumming) was much weaker and harder to control. Playing with the outside mallet, however, felt quite different and I used this new feeling to show the inside mallet how to move throughout the piece, sometimes to success.

The combination of a stick held in a different manner and Ferneyhough’s provocative performance instructions proved significant. With two sticks, I normally felt like I was around 50% capacity—the right hand being workable, the left hand basically intransigent. With four sticks in the in cross-grip, it was as if things had suddenly jumped to around 75%, the outside mallet of the left hand adding 25%. As an added bonus, I could at times get the inside stick of the left hand to cooperate with the other sticks.

Alison immediately understood the importance of this discovery. Holding the stick in a different way was not dissimilar to some of the things we
were doing (i.e., wrapping cloth around the shafts of sticks, wearing gloves when holding sticks, etc.). She enthusiastically encouraged my exploration of the outside stick as a kind of novel sensory experience, adding that, in her experience, persons with focal dystonia often create the best retraining exercises for themselves. Indeed, playing with the outside stick felt a lot like what I thought playing was supposed to feel like (though I still knew that everything was not as I wished it to be). My hand was suddenly far more responsive to the commands I was sending. In addition, the instructions in the score proved to be valuable metaphorical springboards to explore this new level of connectivity. Had the piece not offered such a wide array of situations, in lighting-fast juxtaposition no less, I doubt I would have seen any new potential in my left hand. The piece turned out to be unbelievable invitation to play and to move. Seven months after beginning work, I performed Bone Alphabet.

3.2.2 Psappha

After my success on Bone Alphabet, I was looking for a new piece to play. Although I tapped into previously unreachable levels of control with my left hand, there were still many things that I could not do, nor was I interested in learning. Selecting a new piece would therefore need to be a careful process. I eliminated the idea of playing something that was rhythmically ‘odd’
like *Bone Alphabet*, fearing that anything less than Ferneyhough’s hyper-
spasticity might prove a morass. Perhaps a solution was in the opposite
direction? For example, if *Bone Alphabet* represented rhythmic irregularity,
then it might be interesting to work on a piece more regular in its rhythm to see
how my body would apply the lessons of Ferneyhough. The piece to choose
was obvious: *Psappha* (1975) by Iannis Xenakis. Written on graph paper for
an unspecified collection of several groups of instruments, *Psappha* was
everything *Bone Alphabet* was not. In addition to a palpable rhythmic pulse,
the piece contained intense interactions between groups of instruments (as
opposed to the continuous mixing of the Ferneyhough). Indeed, where
Ferneyhough’s rhythms were kaleidoscopic in their distribution across the
setup, Xenakis’ were laser-like in their focus on particular regions of the
instrumentation. This intensity would certainly put strain on my hand, but given
that *Bone Alphabet* had revealed a new way of playing with four sticks, I
experimented with this method while learning *Psappha*.

Like *Bone Alphabet*, I took to learning *Psappha* as a four-mallet piece
and would use the inside mallet of the left hand only when absolutely
necessary. This was successful for the most part, but given *Psappha’s*
exposed rhythms which allowed the ear to easily identify discrepancies, new
strategies were required. For example, one of the aspects of *Psappha* that
worked well with my physicality was that if the piece was played exactly at the
written tempos, my left hand could (more or less) keep up with the
proceedings. However, I found there were places wherein I could play as fast and as precisely as the piece required, but not with two sticks in my left hand. This realization ended up creating a kind of ‘stick-arc’ in my performance—that is, I would start with four and eventually work my way down to two sticks, one in each hand, for the rolled section at the end. I was thus forced to face once again the inside mallet, albeit it in the form of a single stick at several points in the piece. These passages were extremely challenging and were easily as difficult as the whole of Bone Alphabet.

My approach to gesture in Psappha, like diminishing numbers of sticks I used to play the piece, was also pared down. In contrast to Bone Alphabet, I did not seek a multiplicity of gestural modes, but rather a singular approach that worked for the entire piece. This approach was based on expanding and relaxing the stroke of the outside mallet used in Bone Alphabet (except in places where there was only one stick in my left hand, where an entirely different motion, mostly based in the arm, was employed). More specifically, I sought to use quick, full sounding strokes that were maximally efficient, causing as little strain on the body as possible. This was a challenging task given the difficulty of the piece.

The several performances I gave went well and even though I was familiar with Psappha before starting work on it, several new aspects of its world emerged during the learning process, both positive and negative. It did

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10 All of the tempos in Psappha are written in the form of ‘greater than or equal to’. I opted to keep everything equal to the written tempos.
not take as long to learn *Psappha* as *Bone Alphabet* (no doubt due to the former’s simplified notational strategy), but the experience was no less demanding. Like its notation, the experience of *Psappha* was an extremely direct one, and the unadorned form of drumming it demanded left far less room than *Bone Alphabet* for the ‘masking’ of a weak hand. In fact, the continual changing of the numbers of sticks I used throughout the piece was directly related the level of coordination available in my left hand; I would not have been changing this aspect of the piece otherwise. While this strategy worked, having to create such a visible ‘stick-coping’ scheme was worrisome to me. In *Bone Alphabet*, the procedure had been much more seamless and, unless one listened and watched very carefully, one would have had no idea I was playing the piece with essentially three sticks at all times (despite holding four) for reasons wholly unrelated to the musical projection of the material. In *Psappha*, the simple act of setting a stick down was akin to a direct acknowledgment of my situation as a percussionist with focal dystonia. Even though I was thrilled by the piece itself, having to constantly adjust the number of sticks I used was disappointing because it only made me more aware that half of my body worked in way which was non-functional with a basic component of the piece: qualitatively equal levels of control in the hands. While one could have said, “Well, just play Ferneyhough instead.” The problem was that I loved *Psappha*. As a musical composition, *Psappha* is incredible, easily one of the most convincing pieces I have ever played. From
a physical standpoint, however, I knew what I was doing was completely unsustainable (even in the short term).

3.3 Handedness

In the two years I spent playing Bone Alphabet and Psappha, I thought frequently about the issue of ‘handedness’ in percussion playing. I do not mean handedness in the way it is typically used—to indicate a person’s dominate hand—but rather on a much more basic level, that of percussion playing as something that is ‘done with the hands’. Specifically, the pieces on which I was working (and perhaps even percussion playing in general) necessitated high levels of coordination between the hands. A simple example of this coordination can be found in the alternating, hand-to-hand motions of a roll, where each strike calibrated to the previous, a continuous sound is created. Two conflicting thoughts occurred to me as a result of this observation. First, I was convinced that something like a ‘handedness’ formed an elemental part of the work with which I engaged. And second, it was not at all clear how positing a handedness of percussion playing amounted to anything more than stating the obvious. Observing that percussion playing

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11 The thoughts that follow on ‘handedness’ are intuitive and are based on my own experiences as a percussionist (particularly through the lens of focal dystonia). However, interesting work has been done on the physicality of drumming that bears some resemblance to this discussion—for instance, the notion of the ‘roll’ as indicative of ‘skilled’ percussion performance. See Sofia Dahl, “Movements and analysis of drumming” in Music, Motor Control and the Brain (Oxford: Oxford University Press, 2006).
involves highly integrated, hand-to-hand motions, had the same depth and insight of observing that walking requires alternation of the feet.

Handedness may have seemed beneath comment, yet it continued to be a concern for me. Particularly because coordination between hands—their ability to possess qualitatively similar levels of control—was precisely the problem experienced with focal dystonia. From the perspective of FD, handedness functions as a kind of ‘balance’ between the hands, similar to the ‘sense of balance’ one acquires when learning to ride a bicycle. Until one learns to balance the bicycle, energy is expended in close and conscious observation of the elements present in a ‘rider/bicycle/pavement’ equation. Once a sense of balance is acquired, however, these elements collapse into an unconscious skill that no longer requires active attention. Like a cyclist without a sense of balance, a percussionist with focal dystonia is constantly dealing with the issue of ‘falling’ regardless of the technical challenge of the task. One could play a single strike or a thousand strikes, and, while the respective risks and challenges might be different, it is always apparent that a sense of balance, of connection, of handedness, is lost. One criticism of this observation might be that all percussionists experience a weaker hand. This is certainly true. However, until one experiences focal dystonia, the differences between hands are more likely to be quantitative rather than qualitative. It is one thing to wish your right hand could play faster or that your left hand had
more facility with soft dynamics, but it is another thing altogether to wonder if the hand connected to your body is yours.

This is the view of percussion playing from the vantage point of focal dystonia. It strongly perceives an unconscious, assumed sense of balance, a handedness. Indeed handedness is something that the philosopher Martin Heidegger might term part of the ‘equipment’ of the percussionist’s practice.\(^{12}\) Just as a woodworker perceives a broken hammer as simply a piece of metal attached to the end of wooden dowel (as opposed to a functioning tool in a larger network of consisting of things like nails, boards, walls and houses) a dystonic hand reveals handedness as part of the equipment of percussion—that is, as an element in a ‘referential totality’ including things like sticks, strokes, instruments, hardware and a body of music. It was therefore impossible for me to not see the handedness embedded in the fabric of \textit{Psappha}—a piece that frames the issue so clearly. This frame, complete with single lines of minimally differentiated repeated sounds at non-trivial velocities, is a crystalline example of percussion as a highly integrated hand-to-hand activity. But perhaps the best example, as stated above, remains the humble roll, the simple alteration of the hands aimed at sustaining an object’s sound. The roll is the horizon of handedness.\(^{13}\)

\(^{13}\) The roll has a distinct place in the development of the percussion ensemble as well. Cage’s percussion ensemble only played pieces without rolls because they were impossible for the amateur performers in the group.
The more I thought about handedness the more it became apparent that the repertoire I was playing was inconceivable in its absence. It seemed to me if the hands could not be assumed to have qualitatively equal levels of control and to integrate their motions on a high level, a piece like Psappha would simply evaporate (to say nothing of the world’s other numerous percussion traditions in which forms of handedness might also be operating). If handedness cannot be assumed, it is hard to imagine what would be left of percussion playing. Lest it appear that I am overemphasizing handedness (as opposed to a more holistic view of percussion performance), I can again only offer the qualification that this is how percussion appears to someone faced with focal dystonia. Certainly, percussion playing is more than just hand coordination. Yet through the lens of focal dystonia, this coordination appears as a kind of singular element. Without it, percussion playing is rendered wholly unrecognizable. Let us not forget that for a sizable portion of those who develop focal dystonia on a musical instrument, having to abandon of their musical pursuits is often the result. In the case of percussion, handedness appears as the lynchpin—pull the pin and the apparatus disintegrates.

Because Psappha presents handedness in such an intense fashion—the work culminates in an ‘impossible’ roll—it exposed handedness as simply a framework in which the overwhelming majority of percussion playing I knew existed. This view extended from the work with which I was engaged, to forms of percussion that had long been rich sources of inspiration to me—the great
jazz and rock and roll drummers, classical Indian percussion playing and the Indonesian gamelan tradition. It was difficult to decide how to ‘counteract’ or ‘evade’ handedness because it was an incredibly rich framework—that is, it had been capable of producing an incredibly diverse gamut of genuinely different musics. Like all productive frameworks, the boundaries of handedness are sufficiently generic enough to produce everything from a Jack DeJohnette to a Shri G. Harishankar, Scottish pipe band drummers to Taiko troops. Handedness needs nothing to augment its already complex and productive musical world. To suggest otherwise would be to misunderstand why handedness produced (and continues to produce) such diverse material in the first place. Yet handedness was, for me, a limit, circumscribing a particular topology of percussion performance.

My encounter with Psappha posed the following question: would there be a topology of percussion performance that did not involve handedness? In other words, instead of creating situations wherein I would attempt to mask, or work around my own degree of handedness, would there be scenarios in which it did simply not apply, where it was irrelevant? This was a difficult question to pose at UCSD where most of the pieces my colleagues and I played were overloaded with handed techniques. Handedness oozed from our performances. A strategy bypassing handedness would therefore not consist in simply looking for the next piece to play. I sensed that whatever I needed would likely be far less mediated than the performer/composer paradigm with
which I typically engaged. Just as the choice of *Psappha* after *Bone Alphabet* was (somehow) obvious to me, the choice here was also clear: I needed to stop looking for pieces and start improvising.¹

I did fair amount of improvising at Northwestern, where it functioned primarily as a pressure release valve for the more ‘formal’ work I did in the department. Three of my colleagues—Bryce Beverlin II, Don Nichols, Merritt Lyon—and I formed an improvisational percussion quartet, *quadrivium*, shortly after arriving at school. We played once a week for four years, usually late at night after everyone left the practice building. We would cover the entire floor of the main rehearsal space with instruments and improvise for hours at a time. Our interest in playing together had its roots in the improvisatory pieces of the Canadian percussion group Nexus. We were at the time, however, totally ignorant of ‘free’ or ‘non-idiomatic’ improvisation as a musical practice beyond Nexus, even though that was effectively what we were doing. Working in a vacuum had its advantages however. What we lacked in concrete knowledge of improvisation, we made up for by the fact that we had a willingness to try anything. Had we known about someone like Tatsuya Nakatani, the fantastic Japanese improvisational percussionist, we might have quickly fallen into the ‘it’s been done before’ trap, before we had even so much as played a sound. Ignorance really was bliss in this case, and we learned

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much over our four years together, giving numerous concerts and recording several CDs.

Although I felt that improvisation could yield solutions for working outside of handedness, I was not convinced that my practice of improvisation as it currently stood would necessarily be up to the task. I was troubled by the fact that the improvisational work I had done, was, on the whole, rooted in handedness—that is, while the location of the ‘score’ shifted in this work, my technique remained largely intact. There were certainly times I employed non-handed techniques—for instance, slowly crumpling a metal can or throwing coins at a tam-tam. Yet I knew that these techniques were simply ‘extensions’ of my handedness rather than approaches in and of themselves. A survey of any of the recordings I made during this period (from quadrivium to my work with the bassist Joscha Oetz during my masters degree at UCSD) reveal this to be the case: the most ‘intense’ moments of the improvisations coincide directly with handed playing. Everything else, the non-handed ‘lint’ of the extended techniques, was simply accoutrement.

It was not immediately obvious how I would avoid this state of affairs. Being perennially attracted to the cacophonous writing of the early percussion ensemble works of Cage and the clouds of sound in Xenakis’ music, I followed my ear. My initial improvisations reflected an interest in textures in which an individual player’s sound was not immediately apparent. ‘Counterpoint’ was avoided in favor of ‘mass’ and I typically recorded several takes of similar
material (usually on the same instrumentation) to create dense, multi-layered soundscapes. These layered pieces were interesting to me. For example, even when I played a set of toms-toms using the same technique I used to play *Psappha*, the sound created by layering produced a space in which I found it difficult to discern my own handedness—that is, layering functioned as a kind of ‘erasure’. In fact, the more layered the recordings became, the harder it was for me to hear my body and its dystonic grinding, to hear handedness as the means of percussive ambulation.

While I enjoyed making these early recordings, they were not entirely satisfying because they were made using the techniques of the very framework I was trying to avoid. It was one thing to improvise something that sounded like portions of *Claviers* or *Peaux* from Xenakis’ *Pleiades* (1978), it was another to figure out a genuinely new way of making something sound like that. I would need new techniques, ones that not only made no attempt to mask my left hand but also did not engage the procedures of handedness. And, as I alluded to above, this new technical orientation would not be ‘extended’ in any sense.

My first attempt was to continue the ‘stick-arc’ I used to play *Psappha*. I went one step further by exploring the possibilities of a single stick—that is, a single stick played with two hands. With this technique, the stick would rest in one hand between the thumb and first finger, more or less motionless, and would be played by simply twiddling the fingers of the other hand at the end of
the stick. It was extremely difficult to control the speed and rhythm of the stick this way. However, I was looking for something that had a different relationship between sound and gesture than that of handedness, where, from my perspective, things tended towards a fairly direct causal relationship, not quite 1-1, but something close. Indeed the single stick technique seemed to break that relationship in an interesting way. For example, I would twiddle my fingers at a constant speed and the stick would tap out rhythms that moved at a variety of different speeds, only sometimes coming into phase with the speed of the fingers. It seemed that this technique ‘diffused’ the intentionality of the physical actions. The stick was translating my input into a collection of rhythms that were not directly traceable to my actions. This was ironically like focal dystonia, in that the ‘intention’ of a signal was being distorted in transmission. But again, given that I was no longer interested in having the intention of a physical action ‘in phase’ with its sonic result, this was not a problem but rather a new and interesting possibility.

The single stick technique yielded several pieces, and I played recordings of these pieces for my colleagues, both percussionists and non-percussionists alike. The reactions uniformly centered on how I was making the sound created by the single stick technique. The overwhelming response was that the sound did not seem real. It did not sound like something you could ‘drum’, even though it was clearly being produced by a stick tapping on a drum. Indeed since the hands were no longer working in alternation, it
became possible to do all sorts of interesting things with the sound (subtle
timbral shifts being the most compelling). In my mind, much of what was
happening in the sound of the single stick technique was either not possible or
extremely challenging to achieve with a handed approach. Perhaps this is
why it sounded so surreal to my colleagues—they were listening to it as if it
had been produced by a handed drummer.

The single stick approach, in a reduced form, was highlighted in a piece
I wrote for my second DMA recital, *For Isamu Noguchi* (2006), for four
percussionists each using a single stick. In this piece, each percussionist has
a sizeable collection of small objects placed on a table (I believe we used
twenty-five instruments per player). Before the piece begins, each player
creates a set sequence for the sounds, 1-2-3, *etc.*, to be used for the duration
of the piece without variation. The piece is executed by all performers playing
a slow pulse in unison that cycles through their respective instruments. The
dynamic is soft, and given that the collection of instruments is large, the same
four-note chord will never be played twice. I once calculated that at the tempo
we were playing, it would have taken nearly eighteen hours to play all of the
possible combinations—thousands of new sounds available in a non-handed
‘march’. All one had to do was barely touch the surface. It was a start.
4 TOWARD NON-INSTRUMENTALITY

It is not hard to get an object to resonate; one only has to hit it. Compared with the amount of practice necessary to get a reasonable sound out of a trumpet or a violin, the act of striking a drum seems almost trivial. And drumming would be trivial if it were not for timing. Music performance is, after all, considered to be one of the most complex forms of skilled serial actions. If striking something is easy, doing so at the right time is not.

—Sofia Dahl

4.1 Contact(s): Ricefall

Pursuing non-handedness through improvisation quickly became an important component of my work during the second year of the DMA. Steven Schick was extremely supportive and, perhaps sensed my frustration with *Psappha* as well. A very curious piece, however, entered the picture approximately half way through this second year (2005-06) that confronted the work I was developing in a provocative and unavoidable way. Michael Pisaro, with whom I hadn’t been in touch with since 2000, had sent me a new score. *Ricefall* (2004) was unlike anything I knew from his catalogue. In fact, it was so different from his music I had come to know at Northwestern, that I was genuinely surprised he wrote it. I was in disbelief. Like *within* (5), *Ricefall* was a real shock to my system.

*Ricefall* involves a large ensemble of performers who drop rice on a diverse collection of materials over an eighteen-minute duration. The density
of the falling rice varies each minute, on the minute, via a single unison change for the ensemble. Each player ‘holds’ a single density for one minute at a time (without variation) and then changes at the beginning of the following minute to the next density. The densities are described in the score in an eightfold spectrum. At the least dense (level 1) one grain of rice falls every 2 to 3 seconds, and at the most dense (level 8) the rate of falling rice is continuous, sounding like a “light rain.” The performers sit in a 4x4 grid with anywhere from 1 to 4 players per square. Each player has a container of rice and a material placed on the floor. The score lists metal, wood, stone, paper, hard plastic, rice, dry leaves, ceramic, and glass as possible materials.

After discussing the piece with Michael, I learned that it was inspired by John Hull’s book *Touching the Rock: An Experience with Blindness*, which, among other things, describes the author’s changes in perception while becoming blind during the middle of his life. Much of the book concerns the ways in which Hull learns to reorient himself to a world without sight and the increased awareness this brings to the other senses. In particular, audition takes on a critical role. Pisaro was inspired by a passage in which Hull describes the experience of rain. Without sight, Hull notes that “rain has a way of bringing out the contours of everything: it throws a coloured blanket over previously invisible things; instead of an intermittent and thus fragmented

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world, the steadily falling rain creates continuity of acoustical experience.”\(^2\) He continues in detail describing the sound of rain on different surfaces, noting that this differentiation is like “light falling upon a landscape” which “must be similar to that which a sighted person feels when opening the curtains and seeing the world outside.”\(^3\) In conversation, Michael revealed that *Ricefall* was conceived of as a kind of ‘transcription’ of this narration.

It is hard to describe the immediate interest I had in *Ricefall*, but it was akin to encountering something that I instantly knew I needed to learn more about. *Ricefall* was enticing because the sound of dropped rice, while absolutely produced by percussion (*i.e.*, contact), had no obvious connection to handed percussion techniques. Indeed the technique appeared to wholly ‘subtract’ itself from handedness, placing whatever sounds it might bring closer to a kind of ‘void’ in the field of contact sounds. By ‘void’ I mean the point at which the predicates of handedness break down and lose their consistency. For example, if we say that that a percussionist’s technique consists of something like a ‘guided falling’ of the stick, hand, or mallet, *Ricefall*, with its diffusion and multiplication of the stroke through single grains played by gravity alone, could be seen as moving towards ‘falling’ (‘guided’ having been subtracted from the equation). Here ‘subtraction’ functions as an operation whose horizon is the “reduction of all determinate content” such that

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\(^3\) Ibid, 30.
is establishes a “a minimal difference between [a] void and an element that functions as its stand-in.”

With Ricefall, the stand-in element is the collision between a single grain and a surface—that is, a space of minimal difference between the terms, ‘guided falling’ and ‘falling’. In the vicinity of this minimal difference (and the shift from ‘Contact’ to ‘contacts’ it brings) one can say that Ricefall produces an ‘indiscernible’ point between a type of drumming and a particular case of it.

Consider for a moment the strong connection Ricefall shows to the work of George Brecht from a technical standpoint—for instance, his numerous works involving the dripping of water (most notably Drip Music (1959)). The instructions contained in Brecht’s works are famously concise, and, depending on the piece, exhibit a range of abstraction from concrete, unambiguous actions to the suggestion of ‘events’. Regarding the reduction of a performance towards the indiscernible, we must examine the instructions from Brecht’s For a drummer (1966):

- Drum on something you have never drummed before
- Drum with something you have never drummed with before

The instruction ‘Drum with something you have never drummed before’ demonstrates the positive dimension of a subtractive procedure’s negative.

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4 Slavoj Zizek, introduction to For They Know Not What They Do: Enjoyment as a Political Factor (New York: Verso, 2002), lxxvii.
6 Consider Motor Vehicle Sundown Event versus Bach from Water Yam, for instance.
gesture. Here both surface and technique have been subtracted from what is capable of being identified as drumming. Indeed these seemingly negative gestures open positive dimensions for new exploration. As a kind of maxim ‘Drum with something you have never drummed with before’ best captures the movement of Ricefall, and other similarly subtracted works, towards an indiscernibility between type and case—that is, it locates a point between ‘this is drumming’ and ‘is this drumming?’, between ‘guided falling’ and ‘falling’.

On a practical level, the Ricefall’s subtraction from handedness is the result of two interlocking procedures. First, the sticks have turned into a kind of dust, the anonymous stuff of percussive collision; and second, technical hand-to-hand coordination is a non-issue because the hands are (more or less) motionless as grains slip between the fingers to the surfaces below. In my mind, this piece fulfilled all the requirements of a non-handed work. Yet I knew the approach of Ricefall was much more sophisticated than anything I had been doing (or probably would do in the immediate future). Whereas I had been trying to forge a new, non-handed equation between action and sound with something like the single stick technique, Ricefall seemed to ‘let go’ of any remaining reservations that existed between me as a percussionist and me as percussionist with focal dystonia. More importantly, the piece made no distinction between a trained percussionist and anyone who made the decision
to drop grains of rice. When it came to Schlag meeting Zeug, rice and gravity were unbelievable equalizers.\footnote{‘Schlagzeug’ is German for ‘percussion’ and translates literally to ‘hit-stuff’.
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This equalization pushed the notion of ‘unintentional’ contact into a qualitatively different space, something that had become increasingly interesting as a response to focal dystonia. One drops a grain of rice and, as soon as it leaves your hand, it turns into a miniature chance operation on its way to the floor at 9.8 meters per second squared. The sound that results is, at once, unknown \textit{and} exact. The gap between action and sound, however, was more than just gravitational. The connection between the two was broken on a much deeper level, that of timbre—that is, it was impossible to control with the technique. Emerging from a century in which timbre took on increasingly important roles in everything from popular music to the avant-garde, \textit{Ricefall} suggested a total break between performer and timbre. In fact, if one became wrapped up in what was actually happening when a single grain fell—weight and shape of the grain, angle of release, what part of the grain hit first, where it hit on the surface, air currents in the room, secondary and tertiary collisions, \textit{etc.}—it was apparent that one was only controlling things in a very general way. In other words, all that \textit{Ricefall} was suggesting was that there would be a collision(s).

The sheer quantity of audibly distinct sounds possible from a single grain hitting a given surface was staggering. The grain, a kind of disembodied...
mallet, revealed itself to be an extremely sensitive instrument. The catch here was that there was not a ‘lever’ with which this sensitivity could reasonably be controlled. Yet, to quote Cage, “nothing was lost when everything was given away” with the rice-mallet. The actions of rice-drumming were so tiny, so compressed, that the entire question of technique took on a patently statistical aura. As a result of this, timbre became a field of probability, each grain, a roll of the dice. Yet beyond knowing that the piece would be some kind of ‘texture’, it was impossible to imagine what the piece would sound like, particularly when considering that there would be at least fifteen other people playing the piece at the same time. In my developing practice of non-handed percussion playing, the equation Ricefall proposed between sound and action was simply too compelling to ignore.

I proposed Ricefall to Steven Schick as a possible Red Fish Blue Fish project. He graciously agreed to present the piece alongside John Luther Adams’ Strange and Sacred Noise (1997) as part of the ensemble’s winter 2006 concert. I was thrilled at the opportunity and quickly started gathering the necessary supplies and recruiting the additional performers for what would be our sixteen-player version. It was an exciting rehearsal process but one memory comes to the forefront. Michael was at UCSD for the concert and before we ran the piece in the dress rehearsal, he was walking around the ensemble, listening to various players’ surfaces. He was clearly interested in

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these small shards of sound. There was a sense of wonder, of joy, with each
tiny collision. The image of him leaning over to listen to each material is firmly
etched in my mind. Perhaps because the Adams piece on the program, on
which I also played, involved more conventional playing (and was quite loud) it
was interesting to see someone focused on something that was extremely
delicate, so seemingly inconsequential in the scheme of things. Inside the
auditorium of the Mandeville Center for the Arts, a grain of rice hitting a dry
leaf was but a pinprick in the dark.

When viewed from a different angle, the distance between these two
pieces, *Strange and Sacred Noise* and *Ricefall*, illustrated the divide I was
attempting to bridge. On the one hand, *Strange and Sacred Noise* was a
handed work, employing a large gestural space, projecting sound at loud
volumes, and requiring the chamber music skills of the professional
percussionist to function. On the other hand, *Ricefall* was a non-handed work,
operating in a nearly invisible gestural space, projecting sound at soft levels,
requiring no specialized skills. While both works are textural in nature, it
seemed to me that *Ricefall* had tapped into something much more raw, much
more alive, chaotic and noisy. It was ironic because the opening movement of
*Strange and Sacred Noise*, *...dust into dust...*, with its endless streams of left
hand/right hand drumming, seemed to be describing what was actually
happening in *Ricefall*. Here the sticks in our hands had turned into dust. More
importantly, our technique, our handedness, had also turned to dust. This
dust, of hands and of sticks, fell to the floor, one grain at a time. *Dust into dust.* Sitting on stage inside a swirling band of noise, uncountable rice collisions all around, there would be no looking back.

4.2 ‘Multiple’ Percussion. Or, what is a percussion setup?

The experience of *Ricefall* led me to a genuinely different way of thinking about percussion. I felt the implications of this piece were significant, and I set out to investigate its effects. What started as a desire for a non-handed percussion practice had, in the wake of *Ricefall*, revealed a much more general framework. This framework, which I term ‘non-instrumentality’, became my approach to percussion since *Ricefall*. Of what non-instrumentality consists, and what it implies for the percussionist, is detailed below.

I begin a discussion of non-instrumentality from the vantage point of composer Vinko Globokar’s 1989 polemic on contemporary percussion playing “Anti-Badabum.” In this article Globokar paints for us a picture of “two diametrically opposed ‘philosophies’ [which] divide the percussion world today.” On one side of his divide, Globokar describes a practice:

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10 Ibid., 77.
Principally based on the action of striking, it holds that each percussion instrument has a unique timbre, generated by the nature of its construction and so continues to be concerned with seeking the ideal sound of the instrument, pursuing an elusive notion of purity. This philosophy implies an accumulation of sound materials, for according to this logic of unique sound one must, for every new timbre to be obtained use, a different instrument. With a larger number of instruments, a stereotyped kind of virtuosity can be developed based on the joy of striking with an emphasis on physical activity, the aim being to player faster and louder and louder. It not only builds up the muscles and activates the sweat glands, but also suggests the idea of man as a machine—especially a rhythm machine.\footnote{Ibid.}

In opposition to what Globokar terms this ‘simplistic’ philosophy, he describes another tendency, more creative in my opinion, is being developed which consists of a differentiated palette of timbres and articulations from a single instrument which might at first be considered foreign to the nature of the instrument. The instrument is no longer an object of fetishism but something functional that the percussionist or the composer can explore and manipulate according to his needs.\footnote{Ibid.}

In the former philosophy, Globokar envisions something like Karlheinz Stockhausen’s \textit{Zyklus} (1959) with its massive, performer-encircling setup in which the gong is played like a gong, the triangle like a triangle, the snare drum like a snare drum, the guiro like a guiro, and so on. The focus of this type of piece for Globokar necessarily becomes the player’s effort to negotiate activation strategies that are in relative opposition to one another (and often in rapid succession). The following scenario inevitably results: the gong must be played with a large, heavy mallet, the tone must be coaxed out of it gently in
order to sound properly, but must be immediately followed by a triangle note, requiring a thin metallic rod for activation and a light stroke, only to be followed by a snare drum roll requiring two wooden sticks, played with much greater force than the previous two sounds. The player is caught between these competing forces and the resulting physicality is muscular, large and, for Globokar, riddled with cliché after decades of use. He notes that the use of large instrumentations started in the late 1950s and we can only assume that along with Zyklus, he is, despite no specific references, referring to pieces like Charles Wuorinen’s Janissary Music (1966) and Helmut Lachenmann’s Intérieur 1 (1966). A more recent example of this approach is Roger Reynolds’ Watershed (1995), in which the singularity of timbres is extended to metaphorical aspects of the music.

In contrast to this practice, Globokar offers examples of his own Toucher (1973) and Corporel (1985) as pieces that allow the player to more carefully explore the timbral capacities of smaller instrumentations. In the case of Toucher, the player must rigorously investigate strategies that allow for the small collection of instruments to ‘speak’ in a manner highly imitative of the French text that occurs simultaneously. For a performance to be successful, the player must ‘divide’ single instruments into multiple timbral resources with techniques created specifically for the objects selected. With Corporel, the performer is confronted with a single object, the body itself, in which he or she engages a range of activities resulting in a diversity of sounds. The body
becomes the source and receptacle of action—a technical library as well as a sounding surface.

As further evidence for this second approach, Globokar cites both Iranian zarb and North Indian tabla playing as traditions that utilize reduced instrumentations (one and two drums, respectively) with intricate technical orientations that yield rich arrays of sound. Globokar likens the richness of these two sound worlds to that of spoken language. The zarb, for instance, ‘speaks’ with the ‘completeness’ of a spoken language because its sound world includes nuanced differentiations of ‘tone’ produced by subtle shifts of inflection on the instrument. This level of differentiation is not possible, we can only assume, in a large setup wherein triangle notes follow guiro scrapes.

What are we to make of this divide that pits multiple instruments against multiple sounds/techniques? Perhaps Globokar’s assessment of contemporary percussion playing has some merit. It is true: large setups and the physicality they often engender have become clichéd in the fifty years since the premiere of Zyklus. Steven Schick, who knows this repertoire better than anyone, has observed that the use of instrumentation strategies reminiscent of the early percussion solos have proved logistically tiring and musically paralyzing in the context of leaner and more finely tuned second and third generation pieces.¹³ I concur and think that the days of a single percussionist lost in a maze of hardware and instruments are effectively over.

However, I do not think that Globokar’s solution to the over accumulation of instruments is necessarily a useful one, nor is it as radical as he assumes it to be.

In lieu of a percussionist playing a large collection of instruments, Globokar proposes a percussionist who, as we have seen, produces multiple sounds on a single instrument (or reduced instrumentation) through a complex technical toolkit. We have a name for this type relation to a sounding object—that is, instrumentalist. Globokar’s proposition of the ‘instrumental’ playing of a single instrument is ironic because the grouping together of a large collection of disparate objects in a piece like Zyklus was done, at least in part, to problematize the boundaries of instrumental practice itself.¹⁴ In what sense does a percussion setup create an instrument? Does a timpani, a set of chimes and a metal wash tub form an instrument? A meta-instrument perhaps? By contrast, something like the clarinet is considered an instrument because, in addition to established repertoires and performance practices, it presents the player with a rich internal network for the juxtaposition of sounds (as well as the uncovering of new ones). If sonic difference is thus internal to the instrumental situation, large percussion setups function then as ‘exploded’ instruments, in which previously hidden geometries coalesce into the separate objects forming the setup. Difference in the setup is external, and, like a turntablist who cues a series of records, the percussionist moves from one

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object to other in absence of an internal framework. It is the work of a

bricoleur.

It is interesting to note that in his cataloguing of single instrument
approaches, Globokar curiously leaves out the stunning examples of James
Tenney’s *Having never written a note for percussion* (1971), Pauline Oliveros’
*Single Stroke Roll Meditation* (1973) and Alvin Lucier’s *Silver Streetcar for the
Orchestra* (1988), all written before the publication of “Anti-Badabum” and all
of which produce rich palettes of sound from single instruments. One could
also make the case here for pieces like La Monte Young’s *Poem for Tables,
Chairs and Benches* (1960) as well as John Cage’s *Child of Tree* (1975) and
*Inlets* (1977) among other similarly ‘reduced’ works. One senses that the level
of difference acceptable to Globokar on a single instrument—for instance, the
difference between a bass tone and a head scrape on a zarb—is oddly similar
to that of a snare drum and a guiro in a larger setup. Perhaps the reason
these pieces were omitted is that their respective physicalities (or sound
worlds) were simply too paltry for Globokar. This suggests that the critique of
‘physical activity’ leveled at *Zyklus* and its ilk was simply a question of scale,
as *Toucher* seems similar to *Zyklus* in comparison to Lucier’s *Silver Streetcar
for the Orchestra*, both in the relative size of their actions as well as their
diversity.

Despite the dubious bias against ‘physical activity’, there are elements
of Globokar’s reasoning that can be used in theorizing a ‘non-instrumental’
approach to percussion playing. This involves retaining the additive nature he attacks in large setups (i.e., the procedure of continually adding instruments) and integrating it with the obvious compression brought about by using single objects. At first these two aims seem opposed. How are we to, simultaneously, add instruments (or sounds) and compress the physical situation? More precisely, how might we maintain the ‘unformed’ nature of the setup, the diversity of timbres, and their inherent ‘clashing’ in a qualitatively smaller space without becoming the functional equivalent of ‘trumpeters’ of mixing bowls or thundersheets?

We must rethink what ‘physical activity’ means in percussion playing. Globokar attacked its ‘forceful’ aspects in large setup performance. However, he merely changes the size of the playing field—Zyklus becoming a kind of demi-Zyklus—while not legitimizing the ‘flat’ physicalities of pieces by Tenney, Oliveros, and Lucier. On a more problematic level, this change of scale reactivates the very architecture that large setups were seeking to avoid in the first place—that is, instrumentality. Why replace the situation of the large setup, which had so clearly becoming instrumental, with the instrumental situation par excellence—a single object with a ‘refined’ technical approach? Is this not what large setups were in some sense trying to avoid? If percussion is to continue as a process outside the instrumental situation, the instrumentalizing of the percussive field, either with respect to its instrumentations or its physicalities, must be avoided.
Ricefall offers one possible solution because it presents consequent non-instrumentality in the realm of physical action. While not entirely devoid of all instrumental movement—there are single changes once a minute—Ricefall situates itself along the variegated border between instrumentality and raw sound. By not overly concerning itself with changes between sounds—or more precisely, by navigating each surface’s internal network with respect to only a single variable (density)—Ricefall avoids gaining inertia in the direction of instrumental solidification. This is, of course, related to the non-handed nature of dropping rice. Here the slipperiness of the technique ensures that it is unlikely to undergo any kind of technical ‘improvement’. Non-handedness, or other similarly ‘lo-fi’ techniques, can thus be situated inside the larger framework of non-instrumentality, a network that crosses the various borders between musician and non-musician alike. Inside this network, single techniques, whatever they may happen to be, are performed without variation (although potentially punctuated by single variable shifts). Here the relative ‘difficulty’ of each technique is a non-issue because the resultant sound is no longer in dialogue with the rest of the instrument, only the elements proper to the point on the instrument from where the sound is played. Accordingly, Irvine Arditti holding a beautiful high tone on his violin has the same valence as someone slowly shaking a piece of paper.

Non-instrumental technique is thus conceived as a kind of ‘cut’ of the instrument. And as each player in Ricefall, or any other practitioner of non-
instrumental technique soon discovers, these single sounds, or cuts, are already multiplicities. Indeed at the level of the ‘single’ sound, in absence of any deliberate movement, there is already a sonic multiple. The ‘setup’ is thus formed via the non-instrumental use of the object. The ‘multiple’ in ‘multiple percussion’ is non-instrumental sound itself, otherwise known as ‘noise’. Each sound here is a world. It is through non-instrumentality that it is possible to compress the setup and retain a diverse sound field without becoming an instrumentalist. Accordingly, rice falling on a material—for example, a pane of glass—consists of numerous virtual instruments, all of which move en masse with the player either through single variable changes or in their absence. The non-instrumental cut of the instrument presents us with such a collection of instruments. There is no certainty, however, as to how or when these instruments will rise to the surface (i.e., what their various thresholds are) only that they are present in the material awaiting such a cut. Performance is then the act of revealing this collection. Ultimately, the setup creates itself through the interaction between the player and their non-instrumental technique. These setups are always multiple.

The shift of the word ‘multiple’ from describing the objects used in a percussionist’s practice (‘multiple percussionist’) to denoting something relating to the sounds one makes, has consequences for how the body itself is conceived. Steven Schick has argued persuasively that the percussionist’s most definitive instrument—in absence of any singular, all genre
encompassing instrument—is “corporeal sensibility.” I agree. However, I think that in a properly non-instrumental view of physical action, ‘sensibility’ becomes something less like an ‘engine’—an agent of action—and more like a ‘thermometer’, or a filter which registers a particular sonic intensity. As the setup creates itself in the non-instrumental situation, the body is not needed to unify a disparate physical geometry—that is, the body is no longer implicated in a gestural strategy of qualitatively distinct modalities. There is an important exception to the idea of that the body is no longer needed to unify a setup however. In the non-instrumental situation the locus of unification shifts from movements in gestural-space to the process of aurally grouping the sounds emanating from the object in the performer’s perception. Indeed listening is what ‘gathers’ a collection as a ‘single’ thing. The meaning of ‘sensibility’ therefore moves more towards the ear and away from the arms and legs. Here the player ‘takes a reading’ with respect to the object through the filter of a given technique. For example, a ‘temperature’ is taken by bowing a wood block back and forth, tapping one’s finger on a bass drum a single time, turning a maraca slowly, or letting rice fall onto a cymbal. These collisions between player and object are generic and, as with Ricefall, the techniques used to produce them are as numerous and available as there are objects upon which to drop rice.

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4.2 An Invisible Terrain

The availability of non-handed techniques was impressive to me, but it was not until I saw how they could be non-instrumentally focused in such a way that they would, to paraphrase Alvin Lucier, start to ‘do something’. Placing myself inside these sustained non-instrumental sounds was positively ear opening. I started to realize how little I actually knew about the objects on which I had been playing for years. Indeed instruments as mundane as a wood blocks appeared to be teeming with unknown possibilities (to say nothing of found objects or other non-traditional percussion instruments). It was incredible to realize how little the percussive field actually needed to be nudged in order to produce sounds of such intensity. Was it really as simple as subtracting oneself from handedness, of unplugging oneself from its devices?

The Red Fish Blue Fish performance of *Ricetfall* came and went in a flash, yet it left a mark on my practice because it completely broke with my notions of what a percussionist was capable of doing. There was, without trying to sound unnecessarily vague, *something* there. This rupture allowed the idea of continuing as a percussionist to assume a qualitatively new valence. My practice quickly reoriented itself around sustaining the implications of *Ricetfall*. More precisely, the operative question became how to conceive of percussion practice with respect to *Ricetfall* and to not return to one that consisted, at best, of coping strategies and, at worst, survivalist mechanics.
The philosophy of Alain Badiou perhaps best describes aspects of this process. His work details how an ‘event’ can intervene in a situation—be it political, artistic, scientific or amorous—and reveal the previously hidden space in which a new practice may flourish. An event for Badiou is a kind of ‘supernumerary supplement’ to one of the aforementioned situations, an exceptional break with the status quo, what he calls the ‘state-of-the-situation’. Such a supplement is implicitly fleeting since it is radically beyond what the situation itself is, and is committed to chance. Indeed, an event appears and disappears from a situation almost simultaneously. While it is possible for events to happen at any point in time, Badiou insists that they cannot, however, happen in just any location. An ‘evental site’ is necessary, something which, in contrast to the event, is effectively in the situation. While such a site is part of the situation, it finds itself near the situation’s edge—termed the ‘edge of the void’ by Badiou. More precisely, an evental site is a point that, while a member of the situation, contains elements that are themselves not part of the situation.16 In other words, an evental site is the point at which the dominant forms of discernment and classification in a situation cease to have any utility.

While Badiou’s examples of events are typically significant historical landmarks—the French Revolution, Galileo’s creation of a mathematical

16 See Alain Badiou, Being and Event (New York: Continuum, 2007), 500. “Any non-void set possess at least one element whose intersection with the initial set is void; that is, an element whose elements are not elements of the initial set.”
physics, etc.—they can also be as ‘everyday’ as the encounter of love. What is love if not a chance supplement that alter a life’s trajectory? It is important to note here that regardless of the scale on which events take place, events do not, in and of themselves, represent change. A decision, a wager of sorts, must be made in each case that articulates “this has taken place, which I can neither calculate nor demonstrate, but to which I shall be faithful.”17 Accordingly, an event always poses a question of ‘fidelity’. One can affirm, deny, occlude, or in the case of an event from the past, resurrect the consequences of an event.18 In the case of an affirmative decision, Badiou imagines for us a kind of ‘truth-procedure’. Such a procedure takes as its task the investigation of the consequences of the statement that decided the event’s having taken place. It is through a truth procedure that we see the creation of a new practice, a new ‘subject’ in Badiou’s terminology.

But what exactly is ‘truth’ here? For Badiou, truth is not a “relation of appropriateness between the intellect and the thing intellected” because truth is not limited to a form of adequation in his work.19 Truth is not ‘judgment’ and so does not concern the contents of a what he calls a situation’s ‘encyclopedia’, defined as “the general system of predicative knowledge internal to a situation...what everyone knows about politics, sexual difference,

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18 See Badiou, Logiques des Mondes, 86-87.
culture, art, technology.\textsuperscript{20} Since truth is not \textit{substantial} from the point of the view of the situation, it is also follows that it cannot be totalized into something like \textit{the} Truth. Rather, truth for Badiou is something \textit{new}. Truth is always “that which makes a hole in knowledge.”\textsuperscript{21} Correspondingly, truth is \textit{generic}, a term Badiou borrows from the mathematician Paul Cohen, who in the early 1960s demonstrated how, given a particular set, it was possible to identify generic subsets of that set.\textsuperscript{22} These sets, against Kurt Gödel’s ‘constructible’ sets of twenty years prior—\textit{i.e.}, sets which validate a fixed expression, or predicate, of a set’s language or ‘knowledge’—are non-constructible in that they cannot be generated, nor discerned, from any existing predicate of the set.\textsuperscript{23} Accordingly, a generic subset (a truth) is an \textit{indiscernible inclusion} because it “has no other ‘property’ than that of referring to \textit{belonging}...save belonging to \textit{this} situation.”\textsuperscript{24} In the case of music, one might take Schoenberg’s move to an atonal music from 1908 onward as a generic subset of the previous tonal situation. Such a break created harmonies that could not be inferred from the tonal system, not matter how ‘extended’ it became in the late-Romantic era—that is, they were indiscernibly included in the tonal system as generic chords. Similarly, one could see the growth of Bebop in the early 1940s out of the work of Coleman Hawkins as developing a generic

\textsuperscript{20} Alain Badiou, \textit{Theoretical Writings} (New York: Continuum, 2006), 149.
\textsuperscript{21} Badiou, \textit{Being and Event}, 327.
\textsuperscript{22} See Badiou, \textit{Theoretical Writings}, 127.
\textsuperscript{23} See Zachary Fraser, \textit{The Praxis of Alain Badiou} (Melbourne: re.press, 2006), 24.
\textsuperscript{24} Badiou, \textit{Being and Event}, 339.
subset of swing music, with its use of, from the perspective of swing music, literally ‘unthinkable’ tempos, harmonic/melodic sensibilities, and phrase groupings—that is, bebop constituted a generic thinking of jazz. In both situations we see the emergence of a new practice, near the margins, that is not entirely reducible to its previous situation—that is, the events ‘Hawkins’ and ‘Schoenberg’ create the space for non-constructible musics that “index [a] central void in the previous situation.” Moreover, despite the apparent aesthetic distance between these two examples, it is clear that in each case, truth functions as an invariant category—that is, as a procedure truth subtracts a generic slice of the situation.

Consequently, truths are theorized by Badiou as ‘universal’ because, being generic, they are as confounding to those inside the situation as they are to those outside of it. There is an immediate tension here, however, one which places Badiou at odds with postmodern identity politics which, in their dismissal of the possibility of any genuinely universal statements, seek to reduce all situations to merely cultural and linguistic differences. I am reminded here of one of my colleagues, who in a seminar at UCSD, said “You can’t say that because you are just universalizing your subject position” in response to another student’s comment about a particular musical tradition. His assertion was that the subject is culturally and linguistically produced—

25 Alain Badiou, The Handbook of Inaesthetics (Stanford: Stanford University Press, 2005), 13. See also the scholia on Schoenberg in Badiou’s Logiques des Mondes, “Une variante musicale de le metaphysique de sujet,” (89-105) for a comprehensive overview of such an event.
fundamentally ‘absorbed’ into its own historical situation—lacking the means to “act outside the various forces of [its] production.” 26 Badiou reduces this historicized view of the subject to a single statement: “There are only bodies and languages.” 27 He observes this formulation to form the axiom of our ‘natural’, spontaneous belief system. As such, the contemporary subject only recognizes the objective existence of bodies and the languages they speak—that is, the plurality of body-language formations. In addition, the axiom presupposes the juridical equality of all such formations in the form of ‘tolerance’ towards other subjectivities. 28 However, Badiou reminds us that the contemporary subject is not infinitely tolerant of all positions. We have the right to be different, but not too different:

A language that does not recognize the universal juridical and normative equality of languages does not deserve to gain from this equality. A language that claims to regulate all the others, to rule all bodies, will be called dictatorial and totalitarian. Then it is no longer a matter of tolerance, but of a ‘right to intervention’: legal, international, and, if necessary, military. Offensive actions serve to rectify the universalistic claims, as well as the linguistic sectarianism. Bodies will have to pay for their excesses of language. That is how a violent Two (the war against terrorism, democracy against dictatorship - at any price!) supports the juridical promotion of the multiple. In the final analysis, war, and war alone, permits the alignment of languages. War is the materialist essence of democracy. That is what we are already seeing, and we shall not stop doing so, in this dawning century, if

28 For further writing on the problematics of ‘tolerance’ see Kristen Deede Johnson “The recent journey of liberal toleration,” in Theology, political theory and pluralism (Cambridge: Cambridge University Press, 2007) and Slavoj Zizek’s The Ticklish Subject: the Absent Centre of Political Ontology (London: Verso, 1999), 201-220.
we do not cut short the effects of the maxim: 'There are only bodies and languages.' No democracy for the enemies of democracy.\(^29\)

This Two is broken by a universal ‘subject’ that interrupts the repetition of the situation. A subject, being the gathering of the terms in a situation into a generic subset, exposes the Two—as in the case of ‘Democracy or Terrorism’—as a false choice that only seeks to maintain the hegemony of a particular identitarian interest.\(^30\) For Badiou, having to make such a choice obscures the possibility of a generic procedure that would include all of the terms in the situation.

Alas! If my classmate only knew that ‘subject positions’ are by their very definition universal. But how is the tension between an obviously situated subject and its universal implications resolved? To start, it is clear that an event is absolutely singular. It happens at a particular time, in a particular place. It is situated—for instance, ‘Schoenberg’. Yet, as an event—if it is determined as such—its truth will be immediately universalizable because it decides a zone of encyclopedic indiscernibility, which, as generic, is wholly indifferent to established differences. Badiou explains:

Contemporary ethics kicks up a big fuss about ‘cultural’ differences. Its conception of the ‘other’ is informed mainly by this kind of difference. Its great ideal is the peaceful coexistence of cultural, religious and national ‘communities,’ the refusal of


\(^30\) Perhaps one could see Deleuze and Guattari’s Two, Roots/Rhizomes, as such a false choice as well. ‘Fundamentalist’ and ‘terrorizing’ roots against ‘open’ and ‘variable’ ‘rhizomes’?
‘exclusion’. But what we must recognize is that these differences hold no interest for thought, that they amount to nothing more than the infinite and self-evident multiplicity of human-kind, as obvious in the difference between me and my cousin from Lyon as it is between the Shi’ite community of Iraq and the fat cowboys of Texas…against these trifling descriptions (of a reality that is both obvious and inconsistent in itself), genuine thought should affirm the following principle: since differences are what there is, and since every truth is the coming-to-be of that which is not yet, so differences are then precisely what truths depose, or render insignificant…no light is shed on any concrete situation by the notion of the ‘recognition of the other’.31

The work of a truth-procedure is therefore impersonally addressed to all, to anyone who might happen to cross its path. One is invited to collectively participate in a local act of the generic. These acts are always finite. Yet, it is clear that they concern the accruing of an infinite and non-totalizable truth.32 As a consequence, in so far as a truth-procedure is underway in a situation it “subtracts itself from all community and destroys all individuation.”33 The work of affirming such a process will thus involve resisting the temptation to completely dissolve it into its various historical, cultural, and linguistic frames.

I came to Badiou’s writings just after performing Ricefall, and parallel to my fidelity to that experience, I continued reading his work as I worked on new pieces with Michael. Badiou’s quartet of being/event/truth/subject became a kind of conceptual frame for what I sensed was happening in my own work. It

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33 Badiou, Logiques des Mondes, 17.
was difficult for me not to see at least *something* in common between this way of thinking and my experiences as someone who, to use Badiou’s terms, had been so thoroughly caught up in my situation’s ‘state-of-the-situation’. I needed to look no further than the intense, literally decade-long quest to inhabit a well established, non-controversial technical orientation, one which would allow me to read ‘classic’ works in a ‘comprehensible’ manner. That the ultimate result of this strategy was focal dystonia seems proof enough of the objective existence of something like ‘handedness’. My experience was that of a body trying to speak a language. Yet when it seemed that all I could effectively do was either resist or cope with handedness, there was a gap, a pathway to an invisible terrain. There was a truth, as all situations have the capacity to produce their own truths—a truth of *this* music, generic for all. Despite my particular trajectory towards this gap—I practically broke my hand to get there—it seemed to speak to the larger situation in way that opened a space for something like an ‘any-one’ to move.

In the space of this ‘any-one’ we see Badiou’s response to our spontaneous belief system: “There are only bodies and languages, except that there are truths.”[^34] All thought happens under the ‘except that’. All motion occurs in the wake of an aleatoric interruption. In the case of contemporary percussion music, it became apparent to me that located a great distance from the heights of percussive mastery, the techniques and pieces of which now

[^34]: Badiou, *Logiques des Mondes*, 12.
comprise a global infrastructure of workshops and competitions, there was a space created by dropping rice. This space was literally a single step above not being a musician and just barely a percussionist. In other words, Ricefall located a region of generic percussion activity containing elements that were indiscernible from the perspective of my situation—Western percussion music post-Varèse.

In the case of Varèse, we often talk of Ionisation as a kind of sonic plasma, a work in which a culturally and technically disparate instrumental assemblage comes together in a strikingly new way. It is sonic alchemy. How can we not see this as the event of 20th century Western percussion music (whose effects set off a chain reaction of exploration)? Yet do we not mean that the various sounds Ionisation creates are, in a certain sense, ‘indiscernible harmonies’ from the standpoint of the then dominant ‘neo-classical’ and ‘serial’ situations (to say nothing of the ‘amateur’ social relations it activated)? For example, what is the result of a bongo, a cymbal, and a wood block striking simultaneously in combination with a siren in the middle of a glissando? Whatever may be ‘objectively’ happening in such sound, it is clear that it is not just a summation of its terms nor is it a fusion of said terms into some kind of unity. It is, by way of contrast, a generic point, of what is certainly a non-denumerable infinity of such points.

35 See Schick, The Percussionist’s Art, 55.
Such a sound is, quite simply, a new intensity. It is raw. As a corollary here, one is tempted to re-interpret Varèse’s own comments when, in reference to the potentials of electronic instruments, he states: “Personally, for my conceptions, I need an entirely new medium of expression: a sound-producing machine (not a sound-reproducing one). Today it is possible to build such a machine with only certain amount of added research.”

Viewed through the lens of Badiou and the ‘indiscernibly included’, it is hard to see how Ionisation fails to fulfill the aforementioned criteria as a ‘synthesizer’ of not only new sounds but also social relations. Note that the first performance of the piece was done by a diverse group of musicians, many of whom had no formal percussion experience. Extending the notion of plasma still further—what is Ricefall, if not a new granularity of plasma whose bandwidth ranges from hard plastic to dried leaves in a micro-gestural space? A generic collision of force and material? A multiplicity of worlds, Ionisation and Ricefall (like ‘Schoenberg and ‘Hawkins’) with the invariance of truth? Correspondingly, one is not faithful to Ionisation as a work, but to the truths that exceed it.

It is, of course, only possible to make these observations several years after Ricefall and the start of an intense collaboration with Michael and his music which has resulted in many new pieces. The temporality of an event lies thoroughly in the ‘future anterior’—that is, Ricefall will only have been an event in so far as it is retroactively seen as the point from where a new

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practice emerged and, more importantly, continues in the present. I make this
observation carefully, knowing full well that nothing assures the continuation of
a such a process or even if it is in fact occurring. Only time will tell. As a
process in the real, there is only continuing.

4.4 Constellation

But what is the architecture of a truth-procedure? Stemming from an
event, the creation of a new practice takes on the shape of a constellation, a
poetic way of saying a ‘generic subset’ of the situation. This process started
for me with Michael’s music after Ricefall. I had never experienced such an
explosion of new work in such a short period of time and in such a focused
direction. A new piece would emerge almost immediately after the previous,
posing with it a range of questions about what was now possible given what
had just happened. We started from smaller works (duos-sextets) and
eventually realized works for large, massed percussion ensembles. These
works are giant percussion orchestras in which each player has a single non-
instrumental sound. Point by point, a new percussion music emerged, a music
that was, while intimately concerned with contact, not immediately reducible to
any particular established predicate of contact.37

37 For example, after I sent Michael my version of An unrhymed chord, he listened to it for
several days and just assumed that it was electronic music. It never occurred to him that it
was percussion. This was independently confirmed in a review of the version in which the
reviewer stated that it did not “sound like composed music at all, or even the work of a
I conclude this section with a list of this constellation in its present form, chronologically ordered, containing all the pieces Michael and I have worked on together since *Ricetfall*. I include here a short text for each piece (the vast majority being liner notes from the CD releases). Excerpts of the scores to these pieces may be found in appendices of this document. I pondered what to write about these pieces, but in the end I concluded these short texts were best because they describe what is going on without becoming overly technical. After all, these pieces are the work. They are the subject:

The subject is rare because, contrary to contemporary opinion, it cannot simply coincide with the individual. It falls to us to preserve the form of this rarity, and we shall succeed insofar as the God of the One has died...We who are summoned by the void, we who intervene so as to decide the undecidable, we who are sustained by the indiscernible truth, we who are finite fragments of that infinity which will come to establish that there is nothing more true than the indifferent and the generic, we who dwell in the vicinity of that indistinction in which all reality dissolves, we, throws of the dice for a nameless star—we are greater than the sacred, we are greater than all gods, and we are so here and now, already and forever.  


*Any tone, any tuning.*

The world of Michael Pisaro's *Harmony Series* revolves around the process of translation. In this collection of thirty-four pieces (nine of which are presented here) the composer translates a wide variety of poems into text

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scores. The first step is to literally trace each poem, as if one were making a stencil. A five-line poem might become a five-minute piece through this procedure. This kind of action is direct and purposely simple and it will provide a stable space from which each piece will develop. Call this architecture.

In the second step the composer seeks out the internal forces of the text. For example, a text suggesting proliferation is read as a shift from a barely to a clearly audible, multi-faceted sound. As the poem is already in motion, the composer seeks to harness energy rather than block flow. Evocative readings are eschewed in favor of direct transmutation. Asymptotes are drawn to the poem, resulting is an extremely fine mist of possibilities for the performers to tune (and detune) in performance. Call this material.

A piece is set in motion when the mist is sprayed - always lightly - through the stencil (think pathway, pinprick, or filter). This action creates a dynamic situation. As performers our ears focus as a version begins to take shape - it is unmistakable when this happens. A small flutter appears in the fabric of the piece. We notice sounds that cannot be traced back to any of the individual performers. Drawn in by the fluttering, one starts to know (or sense) what sounds are correct to play, even when there are no explicit rules for how they are to be chosen. The piece is thinking. Call this the point of contact.

To the performers the distance between score and realization will often seem impossibly large. To travel this distance is the defining experience of this music. Along the way, each realization establishes its own kind of weather
system wherein complex relationships are created not only between (and within) the sounds but also the performers. On the other side of the stencil we are in unknown world - sun-distant, alive - immersed in a gently spinning mixture of tone, noise and silence, the radio having been tuned to a previously unheard channel. Call this harmony.\textsuperscript{39}

**Piece #2: An unrhymed chord** (2003) for any number of musicians, realized for 70 percussionists, 65 minutes.

*An unrhymed chord* is a deceptively simple piece. From the score we see that each performer picks a single sound, sustains this sound for one to fifteen minutes in each half of the piece, and that amplitude is inversely proportional to duration. It does not seem like much in the way of instructions for a piece that lasts just over an hour. However, after I started making a realization I quickly realized how dynamic the situation the piece presents actually is. I had never heard a music quite like it: a continuously shifting harmonic mass where a sound could be clearly present, disappear, and reappear at a later point sounding markedly different. At other times the addition or subtraction of a sound would make a sound that had been present not disappear but bend slightly. All of this is accomplished by the inverse relationship between amplitude and duration, and like an elegant mathematical proof, it simply has to be this way in order to function. For this version I used a

wide array of percussion instruments, household items and found objects (metal, stone, clay, ceramic and skin). All of the sounds, of which there are seventy, were made by friction—either by bow, stick or hand.40

**Piece #3: Ricefall (2) (2007)** realized for 64 performers, 72 minutes.

No official note has yet been written on this piece. I will therefore write about its creation. After Ricefall, I told Michael that I enjoyed the piece, so much so that I felt it was too short. The first version of the piece, which retroactively became Ricefall (1), consisted of a single rice-storm 18 minutes in duration. It was fantastic. Given that the material itself was so rich, however, I sensed that it could potentially be expanded and still remain interesting. Michael agreed and expanded the piece to four, 18 minute rice storms each with its own density curve.

I took on Ricefall (2) as a recording project in the summer of 2007. Since the piece can be performed with anywhere from 1-4 players per square in the 4x4 grid (16, 32, 48, or 64 players respectively), I decided to do a 64 player version. I choose this arrangement because the previous piece, *An unrhymed chord*, with its large number of individual parts, had been so shocking. I did not know what would transpire with Ricefall (2), but I sensed that *something* was bound to happen when such a large number of parts came together. The realization process consisted of recording the 18-minute takes

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for each of the 64 materials 4 times each (a total of 256 separate passes).
This was extremely work-intensive and took approximately five months to complete. It was as demanding as anything I have ever done. I often wondered about the merits of what I was doing.

The range of density on the recording is unreal. At the lowest density in the piece, each player is dropping one grain every three seconds. So, give or take a few grains, this means that there are around twenty-one events per second. This may seem dense; however one is able perceive each material individually. This density is akin to listening to the world’s most bizarrely tuned and timbrally varied keyboard while it plays an endlessly varying collection of melodic fragments—a rain of chance. At the highest density, it is impossible to know how much rice is falling. Given that I was using around 2-3 handfuls every 3 seconds, the overall density must be tens of thousands of grains (if not higher).

The sonic result of such a large quantity of events is nearly white noise and is extremely smooth in texture. Yet there are audibly distinct single tones present as well as mass movements that sweep back and forth across the timbral field. It was amazing to me that at even such a density, with all of the inherent ‘duplication’ of each instrument’s sound, one can still hear a ‘gust of wind’.
**Piece #4: A wave and waves (2006-2007)** for 100 percussion instruments, 74 minutes.

This piece began as an idea about confounding the small and the large.

- Small sounds.
- Many different kinds of them.
- Very soft.
- On a large time scale.

This idea had existed in my mind for a long time. I thought that if I ever got the opportunity to write a large-scale piece for orchestra, this would be the way I would approach it. But it was my work with percussionist Greg Stuart on the many-layered recordings of *Ricefall* and *An unrhymed chord* that started me thinking about it again.

I realized that the figure of the wave combined two things that had arisen in this work: the collective action of granular sounds, making shapes of great mathematical complexity, and the nature of an event. To my mind this seemed analogous to John Ashbery’s great poem: “A Wave.” Re-reading it as the breaking down of the event into its molecules without mitigating its collective force, was a revelation.

The first section of the piece is created by the gradual accumulation and subtraction of sounds. Each occurrence of a sound is conceived as a single atom and as a point in a continuum. The sounds are then placed within the statistically conceived parameters of a generalized wave shape. The highest density reached is approximately fifty simultaneous events.
(approximate because the starting and ending points of the sustained sounds are not to be precisely coordinated).

On a camping trip to Big Sur, I had noticed not only that the waves came in nearly regular intervals of fifteen to twenty seconds, but that there was a larger pattern in which every seventh wave would be a “big one.” (I have no idea if this happens anywhere else or whether it only happened in this location when I chanced to be there.) Nevertheless it was something I could have listened to for hours. The second section of the piece is a series of one hundred waves, cresting every twenty seconds. (The waves themselves last thirty seconds—there is a ten second overlap from one wave to the next.) The first six waves of each group are composed of collections of ten instruments and the seventh, of forty instruments.

The ensemble of one hundred instruments was formulated over the course of about a year. This work would have been inconceivable without Greg Stuart’s willingness to consider anything as a possible percussion instrument. The recording is a painstakingly assembled orchestra of one person.41

—Michael Pisaro

The one hundred percussion instruments used in *A wave and waves* are what they are; they have characteristics, they have qualities. Each

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instrument’s sound creates its own geometry, which corresponds to a particular intensity registered by the ear. Some of the sounds are centered around a single pitch (or multiple pitches), others create bands of noise, and still others produce cloud-like collections of percussive attacks or oddly tuned chords.

In the first part of the piece the first thing we hear is a single tone (a bowed vibraphone bar) followed by a band of noise (two stones rubbing together). This change, from tone to noise, is something akin to a large jump on a timbral number line. As this section progresses and solos turn into duos, duos into trios, etc., the movements on this line become smaller and more refined. These changes also start to occur more rapidly as each sound is, on average, playing more often. At the crest of the wave the collective action of the sounds starts to produce something like, to slightly modify Ashbery’s phrase, the timbral equivalent of a real number, ceaselessly expanding off to the right of the decimal point.

In the second part of the piece the process of the first is compressed. What was heard once in detail, is now heard in miniature through one hundred evenly spaced repetitions. Each instrument, starting from silence, crescendos steadily for twenty seconds and then decrescendos for ten seconds back to silence. The period between successive crests is twenty seconds, which if you ask any surfer, is solid groundswell. Add to the situation a constantly changing
collection of instruments for each repetition, an instrumental bathymetry of sorts, and a variety of different kinds of breaking waves is the result.

From a technical perspective, *A wave and waves* is a quasi-synthesis between *An unrhymed chord* and *Ricefall* (done with friction and dropped seeds respectively). In addition to further experimentation with these two techniques, a new, third category of sounds arose in the score. Things like the tearing of paper or the slow turning of a maraca proved to be fantastic sounds, at times functioning like noised-based glues for larger collections of sounds.

Taken as a whole, the various techniques used here comprise an ongoing interest of mine and Michael’s in excitation strategies that (to greater or lesser extents) diffuse the intentionality of the stroke in percussion playing.42

**Piece #5: Hearing metal 1** (2008) for large tam-tam and sine tones, 64 minutes.

The 60-inch (“Mikrophonie”) tam-tam is a large piece of metal, a proto-sculpture. Brancusi might have altered it in ways: rounding and tapering the edges, making an oval instead of a circle, polishing the surface into smooth gold.

The tam-tam is also a vast sound landscape—an instrument that makes noise at the slightest provocation. A resonance is created just in the act of walking past the instrument or breathing on it ... that is, if your ear (or a

microphone) is close enough to hear it. Wherever it is touched with a bow or a hand, it responds with chaotic, unpredictable complexity, never the same sound twice.

I have attempted to work within the givens of this landscape, to allow some of its implicit contours to reveal themselves—by collecting sounds, giving them a duration, putting them into some kind of clear structure, and cutting a path through them with pure tones. *Sleeping Muse* is something like a four-part chorale of bowed sounds, with a melody made up of long sine tones buried in the sounds. *The Endless Column* is a collection of sixty extremely light, close recorded strikes, randomly ordered, but with a rising scale of sine tones mixed in, more or less within the central frequency range of the tam-tam (from 50 to 671hz). *Sculpture for the Blind* arranges eight layers of bowed sounds (which are then released) along a pattern of lengthening durations and combined with a sine tone trio, again woven into the sounds of the tam-tam.

*Hearing Metal 1* is the product of close collaboration between composer and performer. The piece evolved as Greg made test recordings based on my suggestions and then sent them to me. As it happened we feel we fell into its world, in order to move it slightly towards our own.  

—Michael Pisaro

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Piec#6: Four pieces for recorded percussion (Il faut attendre) (2008) for specified and unspecified percussion instruments, 90+ minutes.

1. Whirlpools, Tidepools
2. Chamber Music
3. A Cloud drifting over the Plain
4. The Bell-Maker

Four pieces for recorded percussion is the most recent work Michael and I have undertaken and has yet to be completed. Perhaps the most striking thing about this piece is that it is directly conceived as a recording. Also, as opposed the majority of the works that preceded it, Four pieces for recorded percussion contains a suite of pieces, all of which have radically different procedures and instrumentations. For example, Chamber Music is composed of four short pieces, each with its own instrumentation—“Zen tinnitus” for crotales and stones, “String Membrane” for bass drums and bowed piano, “Midstream” for paper/leaves and rice percussion, and “Trees exhale CO2 in the night” for tree branches and wood blocks. A Cloud Drifting over the Plain is for any number of players in which each player produces sounds by dropping single drops of water (using an eyedropper) onto various materials, combined with the sounds of towels being rubbed on bass drums and sine tones. The other movements, Whirlpools/Tidepools and The Bell-Maker are similarly varied in their instrumentations and structural procedures. Yet like all the pieces that have come before it, the sounds/procedures requested in Four pieces for recorded percussion are non-instrumental in that
they do not vary between sounds, but focus on a single sound (except in certain cases where techniques vary along single variables). The techniques are also non-handed and are therefore available to anyone who might want to engage them. I am curious to see what will happen with this piece.

4.5 Where have you gone, Doris Dennison?

When pondering a conclusion to this document, I felt the best place to end was with a beginning. It is May of 2009 as I write these words, yet I return to the situation of Western percussion music in the 1930s and 40s: Varèse, Cowell, Cage, and Harrison. These names indicate something in the development of our art. Their effort was a gesture of ‘opening’—a sudden and shocking actualization of new potentials. It is hard to conceive of what we do without these names. Everything that came before this configuration seems inconsequential—only timpani cadences and cymbal crashes.

Cage’s earliest percussion works were premiered by ragtag ensembles consisting of bookbinders, his wife Xenia, dancers, and other non-musicians. Doris Dennison, along with Cage, Xenia, and Margaret Jansen, premiered Quartet (1935)—Cage’s first work for percussion—at Cornish College of the Arts in Seattle, Washington in 1938. This piece was written for an indeterminate instrumentation; if it could be struck, it was an instrument. I often wonder what was heard at that performance.
Doris Dennison is not a name synonymous with percussion today, let alone contemporary music. Her involvement with what would become the earliest ensemble repertoire represents but an ironic footnote in the history of the Western tradition of percussion playing. Her name is scattered throughout books on Cage’s music, yet the highest level of detail she receives, beyond mention of her work with Cage, is that she was a Eurhythmics instructor. Again, Cage’s works were not written with the highly specialized, formally trained performers of Nexus, the Northwestern percussion studio, or Red Fish Blue Fish in mind. They were written for Cage’s friends—amateurs, non-musicians. They were written for Doris Dennison.

We often remark on the difficulty of these scores, yet we forget that the difficulty we see is of an entirely different variety than what was seen by Cage’s group. For Cage’s performers, the difficulty was the risk in doing something that ‘anyone’ could do—that is, the courage to inhabit a generic practice, the decision to stand for all. In fact, non-trivial portions of the reviews of their performances come to this conclusion (albeit construed in a decidedly non-positive fashion). “Is this even music?” these reviews collectively say, “anyone can hit a tin-can.”

Rather than viewing this gesture of ‘opening’ as the grounds for developing expertise, or a progressive purification, I believe the future of percussion music in this lineage is the equivalent of a Doris Dennison. Indeed we must radically re-imagine percussion as a practice of amateurs in a non-
virtuosic framework. It is clear this is already happening in certain circles—for instance, those working in the ‘lowercase’ genre and other improvisatory and experimental practices. Yet we must also understand that we have nothing to which to return. Poly-rhythmic noise constructions on junk-yard instruments have become ‘classics’; percussion as a realm of concert virtuosos seems similarly saturated and predictable. Both of these realities stem from distinct sequences in our history: the former, the Varèse-Cowell-Cage-Harrison configuration, the latter, the Reich-Nexus pairing and its offshoots.

It is certain that both of these trajectories have left us with unbelievable music. However, one wonders what the status of these sequences is today? Are they alive, or are they on life support? Are we in a sequential interlude, or are we at the beginning of a third sequence? Wherever we are, I have the sense that Cage’s formulation of ‘Percussion music is revolution’ appears to us as ‘Percussion music was revolution’. But again, looking back to this era for concrete solutions offers us nothing; doing so will only stagnate percussion through a kind of paralyzing nostalgia. Looking to what has happened in its wake is similarly empty—the ‘instrumentalizing’ of percussion through a barrage of professional ensembles complete with press kits and commodified virtuosity. The question persists: how to proceed? What are our techniques? What are our materials? What are the conditions of a percussionist today? Simply put, what is there to do?
New procedures will undoubtedly come from many sources. We must be prepared to pursue these potentials, even if they entail leaving behind what seems close to us. We must continually separate the ‘tried’ from the ‘true’, following the latter wherever it may lead. Such a process is why our work will be experimental, and also why it will be difficult. There will be no road map, yet new geographies will appear as we proceed, bringing with them new possibilities, new questions. I imagine a Dennisonian cut of our world.
Appendix I

Selections from *Harmony Series (2004-2006)*

*Zwei Finger im Abgrund* [harmony series no. 11a]
for three musicians

\[ \text{An die Haltlosigkeiten}\]
\[ \text{sich schmiegen:}\]
\[ \text{es schnippen}\]
\[ \text{zwei Finger im Abgrund, in den}\]
\[ \text{Sudelheften}\]
\[ \text{rauscht Welt auf, es kommt}\]
\[ \text{auf dich an.}\]

—Paul Celan

The piece lasts about two minutes.

Musician 1 (short sounds, choose any one pitch or noise; the quarter is between mm. 30 and 40):

\[ (3x) \quad \text{long pause}\quad (2x) \]

\[ \dot{\} \quad \}\quad \\circ\quad \\dot{\}\quad \dot{\}\quad \circ\]

Musician 2 plays, after a long silence, a long, sustained, noise, with hints of tone.

Musician 3, for the duration of the piece plays an extremely soft, relatively high, very pure tone.

March/June (2005)

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1 The original font and spacing decisions of the composer have been maintained as closely as possible in these appendices.
Sonnenfern [harmony series no. 11c]  
for three musicians

Was uns  
zusammenwarf,  
schrägt auseinander,  

ein Weltstein, sonnenfern,  
summt.

—Paul Celan

The piece lasts about two minutes.

Musician 1 plays a very soft, low tone, for the duration of the piece.

Musician 2 plays a very soft, low noise, for the duration of the piece.

Musician 3 plays as follows (tones are very soft, and the length of a breath or bow):

```plaintext
pause one tone (low to mid-range) pause one tone (mid-range to high)
```
The shipwreck of the singular [harmony series no. 13]
for five musicians playing sustained noises

Obsessed, bewildered

By the shipwreck
Of the singular

We have chosen the meaning
Of being numerous.

—George Oppen

The piece lasts five minutes.

There are five sustainable noises, in various frequency bands from low to high (where at least what is perceived as the central frequency lies within a certain range, relative to the others).

These sounds begin at 0’00” and are sustained for five minutes. There are two dynamics, *pp* (barely audible) and *p* (clearly audible). The chart below indicates the dynamics to be used over the duration.

<table>
<thead>
<tr>
<th>high freq.</th>
<th>0:00</th>
<th>0:27</th>
<th>0:43</th>
<th>1:00</th>
<th>1:40</th>
<th>2:00</th>
<th>3:00</th>
<th>4:00</th>
<th>5:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:</td>
<td><em>pp</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:</td>
<td></td>
<td><em>p</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3:</td>
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<td><em>p</em></td>
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<td>2:</td>
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<td><em>p</em></td>
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<tr>
<td>1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><em>p</em></td>
<td></td>
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</tr>
</tbody>
</table>

The beginning and end of the sounds should be very clear, very precise.

June/October, 2005
No longer wild [harmony series no. 15]
for six musicians, five playing sustained noises and one sustaining a tone

I placed a jar in Tennessee,
And round it was, upon a hill.
It made the slovenly wilderness
Surround that hill.

The wilderness rose up to it.
And sprawled around, no longer wild.

—Wallace Stevens

The piece lasts six minutes.

There are five sustainable noises, in various frequency bands from low to high (where at least what is perceived as the central frequency lies within a certain range, relative to the others). Musician 6, plays a barely audible, very pure, and relatively high tone for the six minutes duration.

These sounds begin at 0’00” and are sustained for six minutes. There are two dynamics, \( pp \) (barely audible) and \( p \) (clearly audible). The chart below, indicates the dynamics to be used over the duration.

\[
\begin{array}{cccccccc}
(t) &=& (n) &=& \text{noise} \\
0:00 & 1:00 & 2:00 & 3:00 & 3:20 & 4:00 & 4:17 & 4:33 & 6:00 \\
6(t): ppp & & & & & & & & \\
3(n): p & & & & pp & & & & \\
2(n): p & & & & pp & & & & \\
1(n): p & & & & pp & & & & \\
\end{array}
\]

June, 2005
Appendix II


**an unrhymed chord**
for any number of performers

sixty-five minutes long
— two periods of thirty minutes each, with a five minute silence between them

each performer finds one sound, preferably with pitch

this sound is played for one duration, between one and fifteen minutes, in each thirty minute period, making sure, in the first period, not to cross over into the silence

the duration of the sound may change from one period to the next

one of the durations may be zero seconds (i.e., a player might decide *not* to play in one of the sections)

the sound may be sustained for the whole length of the duration chosen
— or if it is impossible to sustain the sound for the duration, long sounds may be repeated at regular intervals

the loudness of the sound is in inverse proportion to its duration
— i.e., the longer the duration, the softer the sound the one minute duration should be a comfortable *mp*; a fifteen minute duration will be nearly inaudible.

michael pisaro
2003
Appendix III

Selections from Ricefall (2004)

*ricefall* is for 1x16, 2x16, 3x16 or 4x16 performers, rice, materials and a performance location

the duration of the piece is 18 minutes. it might be nice to repeat the piece with some separation, by programming it at the beginning and end of a concert.

the performing space is divided up into a square surface, 12 by 12 meters (ca. 40 x 40 feet), although smaller spaces might work. there are sixteen squares of ca. 3 x 3 meters, with four units in each direction (see chart). one performer (or the multiple thereof) will occupy each square. if there is more than one person per square, the performers may divide it equally, or may multiply the total area of the square.

in each square there is a material (on the floor) and a small table (with a container of rice).

there are eight kinds of material on the floor: metal, wood, stone, paper (on a hard surface), hard plastic, rice, dry leaves and ceramic (or glass). the material should cover as much of the square as possible, given the performer a large surface on which to let the rice fall. each kind material is used in two different locations, but there should be a clear difference in sound (resonance and/or pitch) between the two, as between, for instance a metal platter and a metal bowl, or different kinds or weights of paper.

the materials, with their different resonances are laid out by chance or choice (and the chart below may also be used).
all of the sounds in this piece are created by rice falling. the performers should use dry, uncooked rice of any kind and size (though it would be ideal to mix the various kinds and sizes). performers will probably need ca. 2 to 3 pounds of rice each. perhaps, afterwards, it can be cleaned and cooked.

there are sixteen individual parts, one for each player. these may be distributed at random. where multiples of two, three or four are involved, the players sharing the same square should have the same part.

the performance begins and ends with a minute of silence.

after the first minute there are 16 time units lasting 60 seconds each, with rice falling for the whole duration of the unit. performers will need stopwatches.
each part describes an intensity (and style) of falling rice for each 60 second unit. all descriptions of the rate and amount of falling rice are approximated: an extra grain falling here and there or slight changes of speed are natural and anticipated.
intensity levels need to be calibrated and balanced; and for this purpose, a chart, laying out the various intensities over the course of the 16 time units has been provided. the highest intensity is steady (but not heavy) rain of rice.

(1) = one grain falls, fairly regularly, every 2 to 3 seconds (count internally, but do not coordinate)
(2) = one grain falls, fairly regularly, about every second (count internally, but do not coordinate)
(3) = two to three grains fall, fairly regularly, about every second (as above)
(4) = one to two small handfuls of grain fall gently out of the hand every second
(5) = intermittent rice falling at a moderate rate, faster than what takes place at level
(6) = continuous falling rice at a moderate rate
(7) = continuous falling rice at a fast rate: rapid but very light, with individual grains still perceivable
(8) = continuous falling rice: fast, rapid (like a light rain)

depending on how much rice is falling in a section, the performer will need to develop a strategy that allows her to grab (as quietly as possible) the necessary rice from the bowl in a way that allows for continuity.

in general, the performer will want to explore the ways in which s/he can control the rate and regularity of the falling rice; explore for her own satisfaction the sound itself.

the performance space should be fairly resonant, but it should not have too much reverberation, as the spatial location of each performer should be audibly distinct.

Santa Clarita, 2004
Appendix IV

Selections from *A wave and waves* (2006-2007)

_for Greg Stuart_

Instrumentation:

1–4 sandpaper on stone, circular motion (four thicknesses or textures)
5–7 metal brush on stones, circular motion (three kinds of stone)
8 falling rice on stone
9 falling seeds on a stone
10 falling pebbles on a stone
11–14 stones rubbing on stones, circular motion (four various sounds)
15–16 two stones click, two different sounds (not sustained: one click is played within in each unit indicated)
17 stirring rice in a wooden bowl (with hand)
18–19 falling rice in a wooden bowl (two weights or sizes)
20–21 *seeds falling in a wooden bowl* (two different sounds)
22 seeds falling on a conga drum
23–5 maraca (turning very slowly, three sizes or sounds)
26 pebbles falling in a ceramic bowl
27 seeds falling in a ceramic bowl
28–30 seeds falling on glass plates (three distinct sounds)
31 seeds falling in a hard plastic bowl
32 pebbles falling in a hard plastic bowl
33 pebbles moving in metal bowl
34 dry leaves moving in metal bowl
35–36 seeds falling on metal plates (two kinds)
37–40 bowing metal plates (four sizes or sounds, complex sounds, not single pitches)
41–43 bowing brake drums (three sizes or weights)
paper ripping (two sounds or sizes/weights)
paper shaking

bowing temple blocks (five sizes)

brush on a tom-tom (circular motion)

objects falling on bass drum (seeds, rice, pebbles)
fingers moving on the surface of a bass drum
moving a towel on the surface of a bass drum (circular motion)

fingers moving across a tam-tam
metal scraper on tam-tam (very gentle, metallic rain)
seeds falling in a tam-tam
very small pebbles (or something as hard) falling gently into a tam-tam

snare drum (with brush, circular motion)
snare drum, bowing on metal edge
snare drum, bowing a drumstick placed on head
pebbles falling on snare drum (two distinct sounds)
seeds falling on snare drum (two sounds)

bells, bowed (3 sizes)
gongs, bowed (3 sizes)
crotales, bowed (2)
seeds falling on small gongs (two sounds)

pebbles falling on small gongs (two sounds)
vibraphone (seeds falling on keys) (four tones)
vibraphone (three different tones, bowed)

marimba (seeds falling on keys, four tones)
marimba (bowed, four different notes)

piano, scraper on a wound string (two tones)
guitar, chopstick bouncing on first string
guitar, chopstick bouncing on sixth string

See the final page for instrument disposition of the performers. The grid should be large enough, in a live performance, so that the audience can sit amongst the performers. A recorded version should attempt to duplicate, as much as possible, the disposition given on that page.
A wave and waves is in two parts. The first part is a single wave, lasting 35’00” and the second part is 100 waves, having the same total duration. There is a silence of 4 minutes between the two parts. The total duration will be 74 minutes.

All sounds are soft. They are like single grains of sand (or molecules of water), which, being combined with other like sounds form larger patterns and collections.

Part I: A world is an integer.

This part is divided into 100 twenty-second units (these are numbered along the left hand side of each column). Those units played are indicated in each part with (approximate) starting times—the performer may begin within 10 seconds on either side of the time. When consecutive times are given, the sound should be sustained (i.e., if it is a sustained sound) for the total duration (as a multiple of 20 seconds times the number of units played). That is, two consecutive times will be forty seconds, three will be one minute, etc. Sounds are steady (no crescendo or decrescendo).

In this section, falling objects (rice, seeds, pebbles) fall at a regular, steady rate. Individual “grains” of sound should be distinguishable.

Part I begins with one minute of silence and ends with 40 seconds of silence.

Part II: A haven of serenity and unreachable.

This section consists of 100 waves of sound. Sounds occur in the indicated groups of 10 (six in a row) and 40 (every seventh “wave”) and begin every twenty seconds (according to the times given). Thirty seconds is allotted to each “wave.” All (sustained) sounds begin very softly (same level as in Part I), sustain for a period of about fifteen seconds, have a slight crescendo (in any sound which can crescendo) for five seconds (cresting at the 20 second point), and then either fade slowly away or are allowed to ring (for up to ten seconds). Decaying or non-sustained sounds simply begin after 20 seconds of the wave have elapsed.

As with Part I, there is one minute of silence before the section starts and 40 seconds of silence at the end.

2006/2007
Appendix V

Selections from *Hearing metal 1* (2008)

*for Greg Stuart*

**Part I** (*Sleeping Muse*)

Sixty sustained sounds (of at least 96 seconds) are found by bowing the instrument in various places.
If necessary, these sounds may be trimmed or edited to fit the time frame or to remove any sense of attack.
They will be faded in and out, with a 6 second fade in and an 18 second fade out for all sounds by the last (see graph below).

Crossfade pattern for Part I (*Sleeping Muse*)
(from the beginning: first two voices)

The sounds are arranged in time according to the chart. This will, in effect be like a 24-minute stream of ongoing, fairly steady sound. (Note that the beginning of the section has some sounds of 60 seconds duration.)

|       | 0:00 | 0:48 | 1:36 | 2:24 | 3:12 | 4:00 | 4:48 | 5:36 | 6:24 | 7:12 | 8:00 | 8:48 | 9:36 | 10:24 | 11:12 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| **I** |      |      |      |      |      |      |      |      |      |      |      |      |       |       |
| **II** | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   |      |      |      |      |       |       |
| **III** | 31   | 32   | 33   | 34   | 35   | 36   | 37   | 38   |      |      |      |      |       |       |
| **IV** | 46   | 47   | 48   | 49   | 50   | 51   | 52   | 53   |      |      |      |      |       |       |

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</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
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<tr>
<td><strong>II</strong></td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
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<td>30</td>
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<td><strong>III</strong></td>
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<td>42</td>
<td>43</td>
<td>44</td>
<td>45</td>
<td>46</td>
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<tr>
<td><strong>IV</strong></td>
<td>54</td>
<td>55</td>
<td>56</td>
<td>57</td>
<td>58</td>
<td>59</td>
<td>60</td>
<td>61</td>
<td></td>
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</tr>
</tbody>
</table>
The last sounds should, as in Part II, be allowed to die away naturally (these will be longer than 40 seconds—possibly as long as two minutes).

A series of sine tones, forming a melody is added to this recording. Each has an eight second fade in and fade out.

<table>
<thead>
<tr>
<th>Number</th>
<th>Frequency</th>
<th>Start Time</th>
<th>End Time</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>792</td>
<td>0:00</td>
<td>0:48</td>
<td>48”</td>
</tr>
<tr>
<td>2</td>
<td>960</td>
<td>0:48</td>
<td>2:24</td>
<td>1’36”</td>
</tr>
<tr>
<td>3</td>
<td>546</td>
<td>3:12</td>
<td>4:00</td>
<td>48”</td>
</tr>
<tr>
<td>4</td>
<td>1164</td>
<td>4:00</td>
<td>4:48</td>
<td>48”</td>
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<tr>
<td>5</td>
<td>200</td>
<td>4:48</td>
<td>8:00</td>
<td>3’12”</td>
</tr>
<tr>
<td>6</td>
<td>1141</td>
<td>8:00</td>
<td>8:48</td>
<td>48”</td>
</tr>
<tr>
<td>7</td>
<td>312</td>
<td>9:36</td>
<td>10:24</td>
<td>48”</td>
</tr>
<tr>
<td>8</td>
<td>176</td>
<td>11:12</td>
<td>12:00</td>
<td>48”</td>
</tr>
<tr>
<td>9</td>
<td>798</td>
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<td>12:48</td>
<td>48”</td>
</tr>
<tr>
<td>10</td>
<td>1472</td>
<td>12:48</td>
<td>14:24</td>
<td>1’36”</td>
</tr>
<tr>
<td>11</td>
<td>569</td>
<td>14:24</td>
<td>15:12</td>
<td>48”</td>
</tr>
<tr>
<td>12</td>
<td>87</td>
<td>16:48</td>
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<td>13</td>
<td>926</td>
<td>18:24</td>
<td>19:12</td>
<td>48”</td>
</tr>
<tr>
<td>14</td>
<td>1183</td>
<td>19:12</td>
<td>21:36</td>
<td>2”24”</td>
</tr>
<tr>
<td>15</td>
<td>643</td>
<td>23:12</td>
<td>24:00</td>
<td>48”</td>
</tr>
</tbody>
</table>

The duration of Part I will be about 25 minutes and is followed by a silence of 30 seconds.

**Part II** (*The Endless Column*)

Find 60 sounds by striking the tam-tam in various places.
Record these sounds, allowing them to ring out.
The sounds may occur in any order.

The sounds will be played back, one by one, with the following start times:

1) 0:00  2) 0:24  3) 0:48  4) 1:12  5) 1:36
6) 2:00  7) 2:48  8) 3:12  9) 3:56  10) 4:00
11) 4:24 12) 4:48  13) 5:12  14) 6:00  15) 6:36
16) 6:48 17) 7:12  18) 7:36  19) 8:00  20) 8:48
21) 9:12 22) 9:36  23) 10:00 24) 10:24 25) 11:12
26) 11:36 27) 12:00 28) 12:24 29) 12:48 30) 13:12
31) 14:00 32) 14:24 33) 14:48 34) 15:12 35) 15:36
36) 16:00 37) 16:48 38) 17:12 39) 17:36 40) 18:00
41) 18:24 42) 18:48
The final sound should be allowed to completely die away. The total duration will be a little longer than 28 minutes.

A series of sixty, 27-second sine tones is added to these sounds. Each tone begins with the onset of a tam-tam strike has the following envelope: .5 second fade in, 6.5 seconds stable, and a 21 second fade out. The following frequencies are used (a scale of 23/22 intervals). The tone number is followed by frequency in hertz, carried out to the hundredth.

<p>| | | | | | | | | | | |</p>
<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>50</td>
<td>2)</td>
<td>52.25</td>
<td>3)</td>
<td>54.6</td>
<td>4)</td>
<td>57.06</td>
<td>5)</td>
<td>59.63</td>
<td></td>
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<tr>
<td>6)</td>
<td>62.31</td>
<td>7)</td>
<td>65.11</td>
<td>8)</td>
<td>68.04</td>
<td>9)</td>
<td>71.11</td>
<td>10)</td>
<td>74.3</td>
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<tr>
<td>11)</td>
<td>77.65</td>
<td>12)</td>
<td>81.14</td>
<td>13)</td>
<td>84.79</td>
<td>14)</td>
<td>88.61</td>
<td>15)</td>
<td>92.6</td>
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</tr>
<tr>
<td>16)</td>
<td>96.76</td>
<td>17)</td>
<td>101.12</td>
<td>18)</td>
<td>105.67</td>
<td>19)</td>
<td>110.42</td>
<td>20)</td>
<td>115.39</td>
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<td>21)</td>
<td>120.59</td>
<td>22)</td>
<td>126.01</td>
<td>23)</td>
<td>131.68</td>
<td>24)</td>
<td>137.61</td>
<td>25)</td>
<td>143.8</td>
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<tr>
<td>26)</td>
<td>150.27</td>
<td>27)</td>
<td>157.03</td>
<td>28)</td>
<td>164.1</td>
<td>29)</td>
<td>171.48</td>
<td>30)</td>
<td>179.2</td>
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<td>31)</td>
<td>187.27</td>
<td>32)</td>
<td>195.69</td>
<td>33)</td>
<td>204.5</td>
<td>34)</td>
<td>213.7</td>
<td>35)</td>
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<tr>
<td>36)</td>
<td>233.37</td>
<td>37)</td>
<td>243.87</td>
<td>38)</td>
<td>254.84</td>
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<td>40)</td>
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<td>41)</td>
<td>290.82</td>
<td>42)</td>
<td>303.91</td>
<td>43)</td>
<td>317.58</td>
<td>44)</td>
<td>331.87</td>
<td>45)</td>
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<td>47)</td>
<td>373.72</td>
<td>48)</td>
<td>395.76</td>
<td>49)</td>
<td>413.57</td>
<td>50)</td>
<td>432.18</td>
<td></td>
</tr>
<tr>
<td>51)</td>
<td>451.63</td>
<td>52)</td>
<td>471.96</td>
<td>53)</td>
<td>493.19</td>
<td>54)</td>
<td>515.38</td>
<td>55)</td>
<td>538.58</td>
<td></td>
</tr>
<tr>
<td>56)</td>
<td>562.82</td>
<td>57)</td>
<td>588.14</td>
<td>58)</td>
<td>614.61</td>
<td>59)</td>
<td>642.27</td>
<td>60)</td>
<td>671.17</td>
<td></td>
</tr>
</tbody>
</table>

This is followed by a silence of 20 seconds.

**Part III (Sculpture for the Blind)**

In this section there are eight layers of sounds on the tam-tam. A series of fifteen “chords” is created using the timings on the chart below. Each sound is bowed and then released before the next chord begins, with the tone allowed to ring out after the release. After the first eight chords the start times begin to move further apart.

<table>
<thead>
<tr>
<th>chord</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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</tr>
</thead>
<tbody>
<tr>
<td>start time</td>
<td>0'00</td>
<td>0'15</td>
<td>0'30</td>
<td>0'45</td>
<td>1'00</td>
<td>1'15</td>
<td>1'30</td>
<td>1'45</td>
<td>2'00</td>
<td>2'20</td>
<td>2'45</td>
<td>3'20</td>
<td>4'10</td>
<td>5'20</td>
</tr>
<tr>
<td>unit duration</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>35</td>
<td>50</td>
<td>70</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>release point</td>
<td>83</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>14</td>
<td>17</td>
<td>23</td>
<td>33</td>
</tr>
</tbody>
</table>
Sine tones aligned with chords (.5 fade in and long fade out, conditioned to fade of sound):

<table>
<thead>
<tr>
<th>voice</th>
<th>sound no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</td>
</tr>
<tr>
<td>II</td>
<td>16 17 18 19 20 21 22 23 24 25 26 27 28 29</td>
</tr>
<tr>
<td>III</td>
<td>31 32 33 34 35 36 37 38 39 40 41 42 43 44</td>
</tr>
<tr>
<td>IV</td>
<td>46 47 48 49 50 51 52 53 54 55 56 57 58 59</td>
</tr>
<tr>
<td>V</td>
<td>61 62 63 64 65 66 67 68 69 70 71 72 73 74</td>
</tr>
<tr>
<td>VI</td>
<td>76 77 78 79 80 81 82 83 84 85 86 87 88 89</td>
</tr>
<tr>
<td>VII</td>
<td>91 92 93 94 95 96 97 98 99 100 101 102 103 104</td>
</tr>
<tr>
<td>VIII</td>
<td>106 107 108 109 110 111 112 113 114 115 116 117 118 119 120</td>
</tr>
</tbody>
</table>

The duration of this section is about 10 minutes and it should be followed by a 30 second silence.

The total duration for the piece is about 64 minutes.

June–September, 2008
Appendix VI

Selections from *Four pieces for recorded percussion* (2008)

*for Greg Stuart*

The performance procedure of these pieces is the recording of individual layers of a multi-part situation by a single player. These layers are coordinated not by playing back one layer while another is being recorded (i.e., one does not listen to previously recorded tracks while recording a new one), but assembled by aligning in various ways, the recorded tracks. The piece is constructed as a record of the kinds of minute, unintentional, organic shifts in pulse timing that occur.

Rhythmic indications have been given in counts—that is, the number of units counted internally by the player. The duration of the count is within an approximate range of .7 to 1.3 seconds (between 85 and 46 beats per minute), and is determined intuitively by the performer at the time of recording (again without looking at a watch). The general procedure of the recording process is described in the instructions for each piece below.¹

The recording can be easily played back with four channels (though more could be used if this is possible, but maintaining the general positioning suggested). A stereo mix, interpreting the four-channel placement with panning is potentially also possible.

The four pieces may be played back individually or in grouping. If more than one is played, they should follow the order given.

1.) **Whirlpools, Tide-pools** (*to Gilles Deleuze*) (10 minutes)

There are twenty sections, one per page (see charts following). Each section is 30 seconds long. The sound part of the section may last between about three seconds to about eighteen. Sounds always begin at about two seconds into the unit. Sections may be played back in any order.

Whirlpools move (sounds move from one location to another). In the tide-pool sections the sounds remain fixed in location.

---

¹ These pieces attempt to understand the recording procedure itself as being partially under the domain of the score. However, a live or performing version of the piece could potentially be made with the collaboration of the composer.
Sounds have been indicated with a code:

The first *number* is the sound-number (there are 48 sounds—a list of these sounds can be found on chart 18).

**Duration**
- **o** (long): ca. 4 to 6 counts in a whirlpool, and up to 18 counts in a tide-pool.
- **•** (short): ca. 1 to 2 counts

**Method of excitation** (free choice of materials to let fall, create friction, tap or bow)
- **G**: gravity or letting something fall
- **F**: friction or rubbing (but not with a bow)
- **T**: tapping or striking (potentially including tremolo for longer sounds)
- **B**: bowing (any kind of bow)

**Kind of material** (12 materials) (Objects indicated produce different sounds.)
- **m** (metal/pitched) (3 objects or sounds)
- **w** (wood) (2 objects or sounds)
- **s** (skin or membrane, pitch possible) (3 objects or sounds)
- **c** (ceramic or glass, some sense of pitch) (2 objects or sounds)
- **st** (stone) (2 objects or sounds)

Thus 5•G3 means: sound number 5, short, using gravity on a membrane (the third of three objects).

Sounds are placed on the chart by their location (location numbers and order numbers are also given). There are four directional fields, centered on the four corners of the square (which may be aligned to channels) in order to guide the panning. If the playback is in four channels the fields represent individual speakers (or panning mixtures between pairs of speakers). A stereo mix will have to further condense this into a 1 to 4 channel panning. Where more channels are available the chart indicates more precise locations.

In a *whirlpool* section, sounds are (potentially) used multiple times. A line with an arrow indicates the order of the sounds (each sound beginning so as to overlap, or in the case of shorter sounds, connect with the previous iteration of the sound). There can be up to four simultaneous layers (or swirls) in each section, with each one indicated with a different color. Layers all begin at the same time. Total duration must be within 30 seconds (but may be considerably less).

In a *tide-pool* section, sounds do not change their location. Sustained sounds last the whole duration of the tide-pool (which may be anywhere from 3 to 18 seconds,
determined by the performer). Each sustained sound begins with the beginning of the section (at two seconds). Short sounds occur twice, randomly placed within the duration of the sustained sounds.

II.) Chamber Music (to Henri Lefebvre and Henri Bergson) (about 20 minutes)

Four sections: Each section is about four to five minutes long and they are separated by fifteen seconds of silence.

In each section there are layers of short sounds in the foreground and of sustained sounds in the background.

The subtitles are more for that player’s reference than for the listener.

1.) Zen Tinnitus

*Short*

Four distinct combinations of stones–pairs of stones that when struck together make a sound that can be clearly distinguished from the others. Each pair is in a different channel. The sound of the strike is relatively loud (mf) and always very clear. This pattern occurs six times with each pairing of stones: count to 20, imagining a very high sound, strike the two stones, allowing the sound to fade in your mind for five counts and follow with a silence of five counts. The four parts enter in canon, at a distance of 30 counts (or seconds) and will end one by one.

*Long*

Paired with each set of two stones there are two very high tones, perhaps bowed crotales, close to the same pitch, each lasting about 25 counts and beginning together (fading in for the first five counts and out over the last five). There is a five-count silence after each bowed sound. They are significantly softer than the sound of the stones. (Each pair is lined up to end when a pair of stones is struck.)

2.) String Membrane

*Short*

The sound is a light finger tap on a (large) drum. In each channel one sound is played nineteen times—the four sounds should be differentiated. The taps are lined up to begin together. The numbers (following the roman numerals indicating individual channels) give the (silent) counts between taps (except at the end, where this is the duration before the recording stops).
The low Ab string (below contra C) is bowed on a (grand) piano, using rosined fish line, up and down in a continuous motion, producing a grainy or raw sounding drone. In each of the four channels this sound tone occurs twice, very softly, each time lasting between thirty seconds and one minute (the durations not are not measured with a watch or counted, they are estimated by the performer). The sounds are placed within the time used by the short sounds using a chance procedure (in one channel sounds do not overlap, that is, there should be some space between them).

3.) Midstream

Four distinct, fairly fast (lasting no more than two counts), clear, ripping or tearing sounds—tearing paper or perhaps a leaf. Each sound is recorded twice in each channel. There are fourteen rips in each of the parts. The chart below indicates the counting patterns between the rips. For example, for each part in channel I: there is a count of 10, then the first rip, a count of 27, the second rip, a count of 10 again, and so on, in each part.
Long
After this recording is made a second layer of eight high, dense, constant, sustained “rice streams” is made as follows:
Rice is allowed to fall at a steady rate on eight different materials selected by the performer (e.g., metal, ceramic, glass, plastic, leaves, stones, tile, a drum, vibraphone keys, crotales, etc.). For each stream four recordings are made on the same material and these are mixed together to make a soft, dense and constant stream of sound. The eight streams are then edited so that they can be placed concurrent with each of the eight ripping parts (or tracks). For example, stream 1 will begin simultaneous with the first rip (in the first part) of channel 1 and end simultaneous with the second rip, 27 counts later. There will be a 10-count pause, and then this stream will start again with the third rip and last 30 counts, until the fourth rip.

4.) Trees exhale CO\textsuperscript{2} in the night

Short
Sixteen parts, grouped into four pulse patterns. (Each part is recorded four separate times.) The groups of four are placed near to each other in the spatial field. In each part, one stick is broken at the given regular pulse (one stick per pulse).

<table>
<thead>
<tr>
<th>Pulse</th>
<th>No. of Repetitions</th>
<th>Sound/Silence Ratio (Wood Blocks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>29</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17 / 11</td>
</tr>
<tr>
<td>II</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 / 13</td>
</tr>
<tr>
<td>III</td>
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<td>IV</td>
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Long
Sixteen wood blocks, each with a different sound when bowed, are found. Each one is paired with one of the sixteen tracks. The sound begins with the breaking of a stick and lasts the duration of the first number of counts of the Sound/Silence Ratio (fading out over the last few seconds of this duration).

III.) A Cloud drifting over the Plain (to Bruce Conner, Robert Barry and Allen Ginsberg) (about 30 minutes)

Short
There are up to forty distinct sounds involving water dripping. Single drops of water (or some other liquid) perhaps from an eye-dropper, falling on different surfaces (drums, tiles, metal bowls, containers, etc.). At least one third of the containers should contain liquid already. The raindrop chart at the end of the score lists 40 parts, with parts listed from left to right and count numbers being read from top to bottom. Each part has a distinct
number of drops. The distance (in counts) following each drop is given on the chart. All the rates start and end at 20 counts, speed up and then slow down over the course of their duration. Once all the parts are recorded, the longest is used as the total duration of the piece. The other parts are placed randomly within the duration of the longest part.

Long
A brush, a towel (and/or) branch with leaves rubbed across a large bass drum (gentle rushing sound). Two sustained sounds, of around 20 counts, one for every raindrop parts used (in a specific panning location)—randomly placed over the duration created by the whole duration of the section.

IV.) The Bell-Maker (to Andrei Tarkovsky and Julia Holter)

Search for bells.

What is a bell? A metal object that rings with a somewhat inharmonic tuning?

How many bells did you find?

When you have 40 or more, record each and listen to its duration.

The piece is made as follows:

The total number of bells will indicate the highest number of strikes.

Use a (random?) procedure to give each bell a number of strikes from 1 to this highest number (using all the numbers in between).

Record each part separately. Each bell is struck softly, but loud enough so that a characteristic resonance occurs. It is allowed to die away, more or less completely, and then re-struck, until the total number has been reached.

The total duration of the piece will be the longest track (plus 20 seconds of silence before and after).

Place each of the other tracks at some randomly chosen starting point that fits within the duration of the longest track.

The longer the track, the softer the volume should be set. The longest track will barely be audible, the shortest track should be perceived as a comfortable p.
The individual tracks are panned (by chance or choice) within the multi-channel space. Each bell emanates from a single location—the whole is like an evening full of stars.

Very occasionally (perhaps five times, spread out over the duration of the piece), a gust of wind, fairly long, blows through the piece. This may be produced by blowing into a resonator softly (and recording it) or by some other means that creates the sense of a wind blowing through the piece.

Spring–Fall, 2008
REFERENCES


____________. “Liner notes.” *A wave and waves*. Cathnor Recordings 009.


____________. *A wave and waves*. Cathnor Recordings 009.


____________. “Liner Notes.” *A wave and waves.* Cathnor Recordings 009.


