Typologies of Movement in Western Percussion Performance: A Study of Marimbists’ Gestures

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Musical Arts

Faculty of Music
University of Toronto

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Abstract

Musicians are on stage not only to be heard but also to be seen. The visual aspects of music are a crucial part of the experience. Whether performers move too much or too little for a particular audience member, their gestures are often noticed. Some audiences may enjoy certain gestures while others may find them distracting. To study this topic in greater detail, I view my research through the lens of marimba performance. The marimba is a large instrument that can involve many movements to produce a sound. The way marimbists move while playing is noticed due to the nature of the instrument. When I interviewed ten professional marimbists in a 2011/2012 study, most participants discussed distracting gestures as a negative part of performance and said that they try to avoid extra gestures unless they relate to the music. The same participants were video recorded performing four excerpts from standard marimba repertoire by Gordon Stout, J.S. Bach, and Keiko Abe. The results of the analysis include: 1) gesture repetition in multiple takes of the same excerpt; 2) movement-areas of the body that I observed most in each participant; 3) a comparison of each participant to the others; and 4) results, patterns, and trends. This research also includes a discussion of literature in visual aspects of music performance, insight to why performers move the way that they do, an explanation of “sound producing” versus “ancillary gestures”, and a detailed discussion of my research study. Although this study will not lead to conclusions that can be applied to all marimbists, it will, however, provide an important contribution to physical gesture research in music performance by presenting patterns and trends from a comparative study of ten professional musicians.
Acknowledgments

This thesis could not have been completed without the support from my academic advisors, family, friends, and those involved in my research study. Russell Hartenberger was my head supervisor for this project and also my percussion lesson instructor and mentor during my doctorate at the University of Toronto. His invaluable support is greatly appreciated and highly acknowledged. Nikki Cesare-Schotzko was co-supervisor and contributed so much to this project. I am very grateful for her participation, skills, and time towards this thesis. John Brownell was also a crucial part of my committee. He always provided thoughtful suggestions and more time than he was required to. I could not have asked for a better committee. I thank them for their time and for helping me to discover what type of thesis I wanted to present.

I would like to acknowledge my mother Sharon Colton and late father Steve Colton for their support throughout the years. They instilled a hard work ethic in me for which I am forever grateful. They gave me the talent and love for music: my life and passion. My mother taught me piano from the age of five, which has always assisted with my percussion career. She was also the one who made me practice. My father was my band director and also the person who helped me decide to choose percussion in fifth grade. He told me to “check this out”, and brought me to his high school band room where there was a girl playing four mallets on the marimba. I knew I wanted to do that someday. Thank you to my loving, talented, inspiring, and supportive parents. My siblings, Dennis Colton and Kristi Schamberger, have also been truly inspiring and supportive. I would also like to acknowledge my grandfather, Luman Colton for his continued love and support, and his contagious love for music. Without the support from those closest to me, I would not have been able to complete this thesis. Thank you to my loved ones.

The participants in my research study were: Aiyun Huang, Virginia “Ginny” Armstrong, Tom Burritt, Pius Cheung, Ayano Kataoka, Doug Perkins, Naoko Tsujita, David Schotzko, Joël Cormier, and Beverley Johnston. I would like to especially thank them for their time learning excerpts, answering questions, and participating in the study. Alejandro Céspedes, Étienne Levesque, and David Schotzko graciously acted as trial participants for me to practice the study. Jeff Higgins was also a crucial person in this study, as he took on the role of technical aid. This involved running multiple video and audio devices, as well as organizing all of the files.
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Introduction

“Does the length of the physical gesture (e.g. the up-down motion used to strike a note) have any effect on its duration?” (Schutz 2009:22). Michael Schutz, author of “The Mind of the Listener: Acoustics, Perception, and the Musical Experience: Do longer gestures make longer notes?” discovered that gesture length affects the perception of note duration in marimba performance. This relates to my study, especially the Chaconne in D Minor excerpt by J.S. Bach, which I discuss in Chapter 4. If the sound does not change with stretched or abrupt chord releases, then why should the performer stretch the chords? Because the audience perceives the sound as longer if they see a longer gesture. Unlike Schutz, I do not include the audience component in my research. Instead, I examine the movements of ten marimbists in order to discover which body areas are most present and to compare participants at given moments in the excerpts.

Figure 1 displays two moments in Bach’s Chaconne in D Minor from my performance in 2012. Pictured left is a chord release at the beginning of the final section. It is clear that I was trying to show length to that particular chord by the height of my mallets. Pictured right is my ending pose after the last note. Although I wanted the note to sustain, I did not want to end with my mallets up. In order to offer the illusion of sustain, I waited and brought the audience’s attention to that one note. These two moments as well as others are examined across all of my research participants in Chapter 4, as I analyzed the type of chord releases and ending poses.

Figure 1.
Musicians are on stage not only to be heard but also to be seen. The visual aspects of music performance are a crucial part of the performers’ and audience’s experience. Whether the performer moves too much or too little for a particular audience member’s taste, his/her gestures are often noticed. Characteristic gestures such as eyebrow raises, head nods, and sways are part of the experience in a live setting. Some may enjoy these gestures as part of the show while others may find them distracting. Although gestures are clearly important from the audience’s standpoint, they are also important from the performers’ standpoint. Performers must be aware of their movements and gestures not only because of the visual aspects of their performance, but also because of how the movements feel and affect the sound of the music as well as the overall performance.

In this thesis, I examine movement and gesture through the lens of marimba performance. The marimba is a large instrument that can involve many movements by the performer in order to produce a sound. The way in which marimbists move while playing is easily noticed due to the size and nature of the instrument. In my 2011/2012 research study, I video recorded ten professional marimbists performing four varying excerpts from standard marimba repertoire. I analyzed the results in terms of 1) gesture repetition in multiple takes of the same excerpt; 2) areas of the body that were observed most in each participant; 3) a comparison of each participant to the others; and 4) results, patterns, and trends. These analyses serve to contextualize the discussion of how and why marimbists move the way they do, and assist in analyzing sound-producing and ancillary gestures.

In Chapter 1 of this thesis, I present a brief history of the marimba and discuss its use in my research. I also display a variety of literature about visual aspects in performance, and an examination of terms related to this research. In Chapter 2, I define and discuss terms such as motion, movement, and gesture. I also look at gesture typologies, including sound-producing, ancillary, expressive, etc. Finally, I cover terms associated with movement, such as economy of motion, repetition, and repeatability.

In Chapter 3, I provide insight to why performers move the way that they do. I break down many factors into the following categories: 1) factors that relate to the performer; 2) factors that relate to the performer’s experience; and 3) factors that relate to the performance. This chapter assists in explaining reasons for different “types” of movements among different performers.
Although not all factors contribute at all times, they are valid to consider and may contribute at given moments throughout the performance.

In Chapter 4, I provide a detailed discussion of the research study, asking several questions, such as: 1) What are the ancillary gestures present in marimbists’ performances and how do they differ from other marimbists? 2) Are the ancillary gestures generally from certain areas of the body (i.e. head, torso, or feet)? 3) Do marimbists tend to repeat gestures on multiple takes of the same piece? 4) Are there patterns related to sex or gender in the study? and 5) Which marimbists play the most similarly and differently, and in what ways? Though the sample size makes drawing firm conclusions that can be applied to all marimbists impossible, significant patterns and trends emerge.

My study took place in Indianapolis and Toronto in 2011/2012, with ten professional marimbists as participants. There were five male and five female participants, all of whom are considered professionals in percussion/marimba. Some were born in North America and others were born in Asian countries, although all participants have studied in North America for at least part of their training. Most are currently teaching at the university level, and all of the participants are professional performers.

The participants played approximately two-minute excerpts from Gordon Stout’s *Mexican Dance No. 2.* (1977), J.S. Bach’s *Chaconne in D Minor* (1802), Keiko Abe’s *Variations on Japanese Children’s Songs* (1982), as well as an excerpt of choice. They also answered interview questions related to their thoughts about movement in performance, as well as information about their background. I video recorded each excerpt twice and analyzed each marimbist’s movements based on the live performance as well as both takes of the video recording. My analysis was based on seven body areas: face, head, arms, torso, body, lower, and sniff/breath. I tallied information from the live session and videos in order to form my data, which includes notes relating to the seven body areas. For example, if a participant took five steps to get from one area of the instrument to another, I recorded five steps, which were later placed into the “lower body” category.

The analysis results include information about 1) gesture repetition in multiple takes of the same excerpt; 2) areas of the body that I observed most in each participant; 3) a comparison of each
participant to the others; and 4) results, patterns, and trends that arose in the study. I examined specific points in each excerpt, in order to compare participants’ gestures during significant moments in the music. For example, I analyzed the ending poses in each excerpt, which revealed many patterns and similarities among the marimbists.

In the study, I first compared each marimbist with him/herself based on multiple takes of the same excerpt, which I titled the “Individual Analysis”. This displayed whether the participants repeated their movements, as well as confirmed which body areas were most present in each participant. Second, I compared each marimbist with the other marimbists by watching their videos, side by side, and recording observations about ancillary gestures in the different body areas that were most present. I titled this section, the “Comparison Analysis”. This analysis provided information about sex-based patterns, body area comparisons, and also revealed the most similar and most different players. This type of comparative research is rare in the field of movement in music performance.

Scholarship that exists has tended to focus on measurement, classification, and assumptions about what constitutes necessary movement in musical performance. I problematize this important foundational work by exploring the interrelationships between the two most commonly theorized types of movement by instrumentalists: sound-producing and ancillary gestures in the context of Western Art Music, and in specific relation to Western solo marimba performance.

While the term sound-producing is widely agreed upon, terminology used to describe gestures that do not explicitly result in sound is less consistent and in many cases, misleading due to the lack of theorization of the relationships between different kinds of movements. For example, Bradley Vines and Marcelo Wanderley use the term ancillary in Music and Gesture (2006), in reference to clarinetists’ movements such as swaying or head gestures. Similarly, Alexandra Pierce’s Deepening Musical Performance through Movement (2007) considers musical (ancillary) and effective (sound-producing) movements when discussing musicians’ gestures. While these texts provide useful information regarding gestures in performance, they share the assumption and in effect, reify a separation between movements necessary to produce sound and those that are not.
I suggest that the divisions between sound-producing and ancillary movements by musicians are much less clear than prior scholarship suggests. By thinking in relation to a spectrum of motion types rather than only sound-producing and ancillary, in this thesis I aim to illustrate how gestures that might not be viewed as essential to making music are, in fact, often central to effective performance, both in terms of extra musical expression and the production of sound. Moreover, I aim to relate common notions of sound-producing and ancillary movements in music making to broader issues: body structure; sex; gender identity; cultural background; personality; mood; physical appearance; confidence level; thought process; training; professional level; life experiences; musical experiences; experiences in movement-related activities; logistics; repertoire; musical genre; performance context; venue; and audience. Thus, in addition to querying the terms of music making movements, I will begin to theorize a politics of instrumental technique.

There are many types of movement, such as rhythmic (pulsing body to the beat), choreographed (predetermined gestures), cueing (communicating with other musicians), expressive (conveying emotion), etc. However, there are several problems with categorizing types of movement. One problem is that there exists much overlap between categories when considering factors such as body structure. A short person may jump from one end of the marimba to another as a sound-producing gesture whereas a tall person may jump as an ancillary gesture. Also, depending on who determines the gesture category, the answers could vary in regard to which type of movement was presented. Although physical gestures cannot be divided into clear-cut categories, they can be generalized into sound-producing and ancillary. In this thesis, I use both terms, but also discuss more specific “types” of movement.

Although applicable to all musicians, this thesis is centered on marimbists. There is a large range of motion that is necessary to produce sound on the marimba. I discuss connections between so-called “sound-producing” and “ancillary” gestures. Sound-producing and ancillary gestures are not standardized for each instrument, and may depend upon many factors surrounding the individual performer. These factors include body structure, cultural background, personality, and others previously mentioned.

The data from my research reveals information regarding correlations between sound-producing and ancillary movements. The data also displays patterns and trends found among professional
marimbists, when comparing each marimbist to him/herself as well as to the other marimbists. The results from this study could assist each of the ten participants with enhancing or confirming their movements in performance. The information could also be useful to other performers when applied to their own movements. This project could potentially change the way in which performers and pedagogues approach movement in performance and teaching, and could also contribute to a greater awareness of the visual aspects of music performance.

Personal Background

As a percussionist with experience in guitar, piano, percussion, and vocal performance, as well as music education, world music, marching band, show choir, jazz, cheerleading, gymnastics, multiple sports, and various styles of dance, I have developed an interest in physical gestures present in performance. I have become more aware of my movements as well as those of other performers as I continue to immerse myself in the field of music performance. As I gained confidence in my playing over the years, I also began moving with more confidence and ease.

I studied both music education and performance in my undergraduate degree before deciding to focus on performance in my graduate studies. In my Master’s degree program, I remember people noticing my movements and commenting on how much they enjoyed “watching” me play. Although I did not know if this was a positive or negative comment, I generally took it as a compliment. My only worry was whether people enjoyed “hearing” me play. When it comes down to it, music is more about the sound than the visual aspects given that hearing occurs with our ears and not as much with our eyes. This is why music can succeed through audio recordings and radio. However, there is something about a live performance that brings the visual and aural more to an even balance, with the visual aspects sometimes even superseding the aural.

As the comments accumulated about people enjoying the way I moved in performance, I began taking more notice to other performers and how they move while playing. Do their movements look awkward or smooth? How natural does the person look on stage? Are they “efficient” players who do not incorporate many extraneous gestures, or are they players who go more towards the “show aspect” and let loose with their movements and gestures? Do they groove to the beat or stand stationary? Does their body structure relate to how they play? After people
saying that it looked as though I was dancing on stage, I began to also look for other people who might do this. It was often more apparent in marimbists than other instrumentalists. Figure 2 displays two moments where I am dancing during *The Wave* (2000) by Keiko Abe in two different performances. Although this piece was not an excerpt the participants played, they did play an Abe piece. Her compositions can often lead to exaggerated and interesting gestures.

![Figure 2](image)

I have come to realize that many of my movements are inspired by emotions or thoughts, as well as my background experience. If I recall a memory at a given moment in the piece I am playing, it will likely affect my gestures based on the mood of that memory. In regard to my background experience, I likely would not move the way I do when playing African-based rhythms had I not taken an African drumming and dancing course. Also, if I had not taken dance courses in jazz, tap, ballet, and modern, I may not be as comfortable moving my body the way that I do. As I will discuss later, these factors, alone, do not determine movement, although they contribute to the many reasons for particular types of moving.

In the beginning stages of my research, I planned to focus more on gender and sex-based comparisons in the study. Based on previous observations, I noticed differences among different sexes and similarities among people of the same sex. However, I realized that my sample size was not large enough to make grand conclusions based on sex. Therefore, I simply offer a few
conclusions based on sex patterns I observed among the five males and five females, as one small part of my study.

My research in movement could re-affirm or change the approach that musicians, and potentially actors and dancers, take toward the role of movement in performing, learning, and teaching. Without the ability to move it is impossible to play a musical instrument. Yet the many connections between bodily motion and the creation of musical sound remain understudied in music scholarship, especially studies of Western Art Music.
Chapter 1
Movement and Gesture in Performance

1 Introduction

I begin this chapter with a brief history of Western solo marimba performance in order to display a timeline and evolution of the instrument. In the second section, I contextualize the topic of movement in marimba performance by offering a broader explanation of percussion, and then a further discussion of why I chose to focus on the marimba. Finally, I offer an overview of the literature that exists in the field of movement in performance with a focus on percussion, specifically the marimba.

1.1 History of Western Solo Marimba Performance

Xylophones and marimbas are both struck with mallets and constructed of tuned pieces of wood or other types of materials. There is a confusion of terms when it comes to the xylophone and marimba, as they are defined differently in non-Western cultures. In Greek, the word xylophone is derived from xylos-wood, and phono-sound. In Percussion Instruments and their History (1984), James Blades writes that xylon means wood and phone means voice (403). The word marimba originates from an African Bantu language, and refers to a xylophone that has resonators under each of the bars, often made of gourds. Blades writes that marimba means a gourd xylophone or one without gourds in certain regions. The contemporary Western marimba is tuned with the first overtone two octaves above the fundamental, which creates a mellow sound. The contemporary Western xylophone is tuned with quint tuning, where the first overtone is tuned an octave and a fifth above the fundamental, creating a sharper and more staccato sound. There is some debate on the differences between the xylophone and marimba, but these are not central to the present study.

Performance Market and Repertoire

There were many solos published for the xylophone in Germany, England, and the U.S. between the 1870’s and 1930’s. Xylophonists found work in military bands, community bands,
orchestras, vaudeville acts, musical theatre, light opera, and Chautauqua presentations. From the 1880’s to 1890’s, “Tin Pan Alley” was at its peak, and George Hamilton Green became successful as a xylophonist and instructor. From the 1890’s to 1930’s, the John Philip Sousa Band featured some of the following xylophone soloists: Charles P. Lowe, Martin Schlig, Joseph Green, George Carey, Howard Goulden, William Paulsch, and John Henry.

According to Rebecca Kite in *Keiko Abe: a virtuosic life: her musical career and the evolution of the concert marimba* (2007), around the early 1900’s, silent films and Ragtime music become popular. George Hamilton Green, Henry Breuer, and Yoichi Hiraoka all gained national recognition for their xylophone playing. Others include Red Norvo, Sammy Herman, George Lawrence Stone, William Dorn, and Carl Gardner, all of whom had great influences on the development of solo xylophone performance. When multiple-mallet playing started becoming popular, the Green brothers wrote a method book called *Green Brothers’ Advanced Instruction for Xylophone* for four-mallet instruction.

As the J.C. Deagan Company began producing a variety of marimbas, the split between xylophones and marimbas became clearer. World War II, however, left the company without materials to make instruments for a long period of time. Despite this, Blades indicates that there was an increasing use of marimbas in orchestras around the late 1940’s and 1950’s. Darius Milhaud’s *Concerto for Marimba and Vibraphone* (1947) was composed along with other works such as Paul Creston’s *Concertino for Marimba* (1940) and James Basta’s *Concerto for Marimba and Orchestra* (1956).

Between the 1930’s and 1960’s, Clair Omar Musser began his many efforts in popularizing the marimba. In 1948, Musser began his own marimba manufacturing company. He created the “Century of Progress” marimba, which was used in his 100-piece marimba orchestra, formed for an event in Chicago. The instrumentation included eighty 3.5-octave marimbas and twenty 4-octave marimbas. Musser had many superb students, one of whom was Ruth Stuber Jeanne. Jeanne also studied with Green, and she performed the first marimba concerto, *Concertino for Marimba* by Paul Creston in 1940 at Carnegie Hall. Other star students included Gordon Peters and Vida Chenoweth. Chenoweth was known for her two-mallet technique as opposed to multiple mallets in each hand.

**Progression of the Marimba as a Solo Instrument**

Kite discusses that in the 1960’s in the U.S. there was somewhat of a dry spell when it came to the marimba. Keiko Abe, however, was just beginning her career around the age of twelve in Japan. In the 1960’s to 1970’s, Abe began commissioning works and composing pieces for marimba, herself. She was the first to represent a new way of performing and composing works for the marimba, paving the way for future marimba soloists and composers. She was persistent in making the marimba a solo instrument that would be taken seriously among the music community. She later worked with the Yamaha Company to have a five-octave marimba built in order to allow the marimba to exist more easily as a solo instrument with a wide range of pitches and sounds. Abe remains one of the most influential and well-known marimba players in the world.

In the 1970’s and 1980’s, Leigh Howard Stevens developed many new techniques that excited people who were interested in the marimba as a solo instrument in the U.S. and Europe. Stevens introduced one-handed rolls, single independent strokes, and other new techniques. Birch-handle mallets also became popular as they worked nicely with the new “Stevens Grip”, in which the mallets, held separately in the fingers, do not come into contact in the palm, as opposed to “Burton Grip” or “Traditional Grip” in which the mallets cross one another underneath the player’s hand (12). Stevens presented a grip that was created with the aim of adding independence to each mallet. It is also said that larger intervals are achievable by using the Stevens grip, although this is debatable.

In the 1980’s and 1990’s, the marimba range expanded again to four-and-a-half and five octaves. Major composers were writing for the marimba, such as Daniel Druckman, Minoru Miki, Steve Reich, Joseph Schwantner, Luciano Berio, Hans Werner Henze, etc. The idea of a marimba
orchestra returned in West Point, New York, on March 28, 1998, with 134 marimbas spread across the stage to be played by 184 marimbists, all directed by Frederick Fennell. In 2011, the Percussion Arts Society International Convention celebrated their 50th Anniversary with a marimba orchestra.

**New Millennium**

At the turn of the 21st century, marimbas were becoming even more popular. Many percussionists/marimbists in my generation (I was born in the 1980’s), view marimba much differently than previous generations. The marimba is now a significant instrument in percussion pedagogy. Auditions for university programs and orchestras often include marimba excerpts and solos with two and/or four mallets. It is not enough anymore for a percussionist to play snare drum, timpani, and basic two-mallet keyboard instruments. The expectations currently include a general knowledge of four-mallet marimba playing as well, as I have seen while teaching high school percussionists throughout Iowa. Many high school bands in the U.S. include repertoire with four-mallet marimba parts, such as bands in Washington, D.C. and throughout Texas. With marching bands and drum corps, the standards are increasing even more, as most of these ensembles include a “frontline” or “pit” consisting of instruments such as: the xylophone, glockenspiel, chimes, vibraphone, and marimba. Marimbists and vibraphonists in these ensembles are often expected to play with four mallets.

With more solos being composed for the marimba, percussionists are often spending more time practicing and performing on this instrument. Many universities have percussion ensembles and even marimba ensembles. The Boston Conservatory, under the tutelage of Nancy Zeltsman, offers a marimba major. Although many other universities do not offer a specific marimba major, they hire instructors who specialize in marimba (i.e. She-e Wu, Northwestern; Michael Burritt, Eastman; Gordon Stout, Ithaca; and Mark Ford, North Texas; etc.), in order to include this crucial component in the percussion pedagogy at each school. Japan has multiple schools with marimba majors who study marimba without focusing on the other percussion instruments. Keiko Abe, Eriko Daimo, and Momoko Kamiya are just a few of the many great marimbists and teachers from Japan that have started this phenomenon of producing many excellent students.
who focus on marimba. International competitions for solely marimbists are becoming more common, as well as marimba festivals throughout the world.

With this peak of interest and talent in the marimba, more research is needed on how to play and present oneself on the instrument. Due to the layout of the marimba, physical movements are necessary to produce sound. This is one of the primary reasons that I focus on the marimba in this project.

1.2 Movement in Marimba Performance

In order to discuss movement in marimba performance, it is first necessary to look at the broader topic of movement in percussion performance. Percussion has grown immensely in the past century. Due to the nature of the percussion family of instruments, many solo performance works vary in instrumentation. For example, a percussionist’s recital may consist of the following instrumentation: timpani, snare drum, marimba, vibraphone, xylophone, drum set, ethnic percussion instruments, body percussion, and “multiple percussion” (including any combination of conventional percussion instruments or non conventional “instruments” or objects). As one can see, it would be difficult to analyze and compare physical gestures within this one percussion recital because each instrument is constructed differently, making the sound-producing gestures different for each instrument. The type of instrument is one of the many determining factors of movement. A few others include: venue, personality, and cultural background. The type of instrument, and more specifically, percussion instrument, affects the ergonomics and types of capable and sound-producing movements, which in turn, could affect ancillary gestures.

Although I focus primarily on marimba performance in this thesis, I discuss other percussion instruments as well. Marimbists are percussionists, and the experiences that performers have on other percussion “instruments” (conventional or non-conventional) can contribute to the way they move while playing the marimba. For example, after a percussionist goes through the experience of performing Vinko Globokar’s ?Corporel (1985), he/she may become more comfortable with physical gestures in front of an audience or could potentially become less comfortable. ?Corporel is a piece written for solo body percussion, which requires the performer to not only play his/her body, but also to insist that the audience focuses on the body
and movements. The performer is on stage with nothing except his/her body to hit, strike, rub, etc. There are also vocalizations throughout the piece.

Another solo percussion work, *To The Earth* (1985) by Frederic Rzewski, is written for four flower pots and spoken text. This is another piece where the performer needs to be comfortable using his/her voice and acting skills. With the fairly recent shift in percussion repertoire, from standard instrumentation to the types of instrumentation in pieces such as *Corporel* or *To The Earth*, it would be too difficult to compare the physical gestures across multiple different percussion works and instruments for this project.

Physical gestures are also affected by what the composer asks of the performer. Diana McIntosh composed *All Too Consuming* (2007), for a dining room table set-up, tape, and spoken text. Vinko Globokar composed *Toucher* (1973), for multiple percussion instruments and spoken text. Both of these works, along with *Corporel, To The Earth*, and many other percussion works, add two more dimensions beyond the musical dimension: speaking and acting. Physical gestures are most likely affected by these two dimensions. Given the broad spectrum of repertoire and instrumentation within the percussion family, I focus my research on one instrument (marimba) in order to control one large determining factor of how and why performers move: the instrument. Even within marimba repertoire, the styles of pieces being performed create much diversity. For example, playing Bach repertoire on the marimba is different from playing Keiko Abe’s compositions or *Two Mexican Dances* by Gordon Stout. The tempo, mood, history, and feel of these three styles of repertoire are vastly different.

The marimba has recently become more established in solo percussion repertoire. As the popularity of the marimba continues to rise, the importance of researching marimbists’ gestures also rises. It is particularly interesting and necessary to focus on this exceptionally large instrument, as each performer moves differently depending on his/her body structure, cultural background, and other factors mentioned throughout this thesis. In the previous section, I discussed the history of the marimba and the evolution of where the instrument began to where it is today. As a respected and vital instrument in the percussion family, the marimba now has a place as a solo and ensemble instrument with a rapidly increasing repertoire.
Whether marimbists play with two or four mallets, they may be required to move all over the instrument, playing in the top range and then immediately down to the bottom range. My research focuses on four-mallet marimbists because most soloists currently perform with four mallets instead of two. With four voices, the marimba can act both as a harmonic and melodic instrument rather than solely a melodic instrument. Four-mallet solo marimba performance is unique in that it can cover four voices at a time, the performer generally stands to play, and no direct contact occurs between the soloist and the instrument because it is struck with mallets.

After realizing those three unique features of marimba performance, one can more clearly see the reasons for gesture and movement research related to this instrument. With four mallets, the performer may be asked to play difficult chord shapes, which requires the performer to turn his/her body in various angles. With the performer generally standing to play the marimba, the body is freer than it might be sitting on a bench or chair. The legs are free to step, slide, stomp, jump, lunge, etc. The hips are also available to move in any direction. Without direct contact to the marimba, the soloist has a different relationship to his/her instrument than a wind player, pianist, harpist, and almost every other instrument besides percussion. Marimbists do not have to hold their instrument, which leaves more freedom to move their arms, torso, head, and other areas of the body.

Although there is not a direct connection between the performer and marimba, the mallets connect them to one another. This unique situation allows for more freedom of movement than most instruments. Of the percussion instruments, the marimba has the longest length, which is one of the reasons why movement and gesture often gets noticed with marimba performance. Marimbists are often said to dance with the marimba. This can be one of the interesting aspects of marimba performance. In my research study, I discuss body areas such as lower body, torso, whole body, arms, head, face, and breath. By displaying these areas, it becomes apparent which marimbists are swaying, dancing, standing still, etc. I discuss these types of movements along with many others in my research study.

1.3 Literature Review

There is a dearth of critical research on sound-producing and ancillary movements in relation to marimba performance, and their correlation between factors previously mentioned in the
introduction, such as cultural background, personality, training, etc. Existing research often discusses movement in relation to technical issues, injuries, or expressive movements, but does not take into consideration the connection between sound producing and ancillary movements, the spectrum of movement types, and the reasons performers move the way that they do; nor does the research often take into account the ergonomics of one’s instrument.

Although there is not an abundance of existing literature in my specific research area, there is a sufficient amount written about the broader topic of movement and gesture in performing arts. Provided is a brief overview of existing literature related to music and movement, with an emphasis on literature related to percussion and/or marimba performance. Due to the type of source and importance of content, I begin with Alf Gabrielsson’s bibliographic essay, “Music Performance Research at the Millenium” (2003), which provides an overview of significant research about physical movement in performance.

Gabrielsson discusses “motor processes” as one of ten categories in his essay (248-50). He explores Eric Clarke’s interview study on piano fingerings, the relation between interpretation and fingering, and the teacher’s role in the subject area (1997). Gabrielsson also mentions many other studies related to movement in piano performance such as Richard Parncutt’s 1997 study on the development of an ergonomic model of right-hand fingering in melodic material; John Sloboda’s 1998 study on fingering comparisons of masters, experts, and novices; Parncutt’s 1999 study on right versus left-hand emphasis; and J. P. Jacobs’s 2001 study on the effects of music-historical periods on fingerings. Although pianists may be the intended audience, all musicians may relate to the topic of movement in performance. Piano fingerings, similar to marimba stickings, determine fine motor skills, which relate to gross motor skills.

Other research in Gabrielsson’s “motor processes” category include Kate Grieshaber and James C. Carlsen’s 1996 study on musicians’ polymetric performance; Anders Friberg and Johan Sundberg’s 1999 research on the relation between human locomotion and ritards in music (which draws on continued research from Ulf Kronman and Johan Sundberg, [1987]); and Friberg’s 2000 study on vertical force patterns in walking and dancing. Patrick Shove and Bruno H. Repp (1995), as well as Eric F. Clarke (2001) provide a broad overview of musical motion and performance. Although these studies do not directly relate to marimba performance, they explore movement in music performance.

The sources in this literature review vary from branches of movement such as marching drum line visuals to actors’ gestures. As displayed in the bibliography, multiple types of sources are presented: “academic sources,” including books or journals; “music education sources,” which relate to instruction and pedagogy; “performer’s articles, interviews, and method books” which provide the performer’s perspective; and “scientific studies,” related to physical gestures. The following sources range from 1951 to 2012, and are organized by content. The sources that discuss similar topics are presented together in the following categories: Music and Movement; Rhythm and Movement; Gestures; Economy of Motion and Efficiency; Extraneous Gestures; Visual versus Aural; Movement Analysis; Expressive and Emotional Gestures; Movement Terminology and Choreography; and Individuality.

Music and Movement

* A Pathway to Dalcroze Eurhythmics (1951) by Ethel Driver explains eurhythmics and acts as a manual for teachers. Driver writes,

  
  Eurhythmics implies a method of movement of the body, to music; the movement being not merely accompanied by the music but suggested by it and growing out of it, so that the two become complementary. The music is interpreted by the bodily movement; the bodily movement becomes expressive and harmonious in response to the music. (vii)

In the early 1900’s, Emile Jaques-Dalcroze experimented with a new and different type of teaching music, that which involved the combination of music and movement to develop unity between the five senses.
Experiments showed that if children were encouraged to use other parts of their body besides their ears, their response to music became infinitely more vital, their progress astonishingly quicker: they became the delighted partners instead of the bored victims of their teacher. (1)

Dalcroze is a strong advocate of incorporating movement with music and believes that it is important to begin this connection at a young age. As a percussionist interested in physical gestures, I greatly respect the work and ideas Dalcroze brought to the musical world. The idea of encouraging children to move to music at a young age could later bring ease and comfort to physical gestures while performing.

“Hand Drumming: An Essay in Practical Knowledge” (1996), by Shawn Lindsay, discusses the experience that Nick Baham and Lindsay had in hand drumming lessons with Orlando Cotto. One of Lindsay’s aims in this essay “is to describe how complex musical performances are generated through bodily praxis” (197). Using phenomenology, the idea of “transparencies” is discussed, as Lindsay describes his experience of his body becoming invisible although maintaining a sensual presence while hand drumming. He then states, “There is a structure to the body’s disappearance implied in the activity of drumming, a predisposition for the body to disappear in a certain way. The initial acquisition of a skill often involves an uncomfortable awareness of one’s body… An identity will be established between self and habitus. The body’s awkward parts will soon ‘disappear’” (201).

Lindsay also discusses Cotto’s philosophies of 1) relaxing the body in order to feel the rhythm and 2) preparing the body to interact in performance (208). Cotto’s ideas about relaxation and body preparation have not been widely discussed, although appear to be an essential part of performance, especially in hand drumming. The idea parallels that within A Pathway to Dalcroze Eurhythmics, in that they both discuss music and movement as one in the same.

“Glen Velez: A World of Sound in His Hands” (2000) by N. Scott Robinson is an interview with Glen Velez which is found in Modern Drummer. Velez, a former student of the world-renowned timpanist, Fred Hinger, went on to become a virtuoso tambourine/frame drum player. He discusses some of the ideas Hinger shared with him,
Circular Motion; Fred Hinger was a very, very deep thinker about percussion, and he was able to kind of distill certain ideas in a very practical way; the idea that all the strokes are basically circular, and that if you follow that form of circles, when you’re playing, then there’s an efficiency, and a potential for a lot of expressivity that you’re not going to get from this idea of “up and down,” which is superficially what you think percussion is about. You raise a stick up, and bash that thing, but his idea was all about circular motion, and it was more of an Eastern idea about how you would approach movement. (72)

Velez later discusses his “whole body approach” to frame drumming. In performance and instruction he uses his lower body to feel the pulse through walking-like motions, utilizing his body memory. Similar to Lindsay’s “Hand Drumming” article which discusses Orlando Cotto’s instruction style, the idea of a “whole body approach” or embodying the music returns.

“Embodiment in Musical Knowing: How Body Movement Facilitates Learning within Dalcroze Eurhythmics” (2004) was written by Marja-Leena Juntunen and Leena Hyvonen. In the context of Dalcroze Eurhythmics, this article discusses how movement can facilitate musical knowing. Their argument, parallel to Merleau-Ponty, is that “the body is our primary mode of knowing” (199). Topics discussed include 1) The body in knowing; 2) Bodily knowing in musical action; 3) Sensing quality through kinaesthesia; 4) Musical understanding as a habit of musical action; 5) From physical metaphor to musical understanding; 6) Toward the reflective level of knowing through words; 7) Listening through the body; and 8) Listening and expression. The authors aim to challenge music instructors to understand and “recognize the importance of embodiment in the arts as well as to reconsider the meaning of bodily knowing in education in general” (211). This parallels with Velez and Cotto’s instruction style of embodying the music.

Rhythm and Movement

Aesthetics & Music (2007), by Andy Hamilton, discusses rhythm and timing in Chapter 5, and how rhythm leads to movement. Hamilton references Roger Scruton and his views on three aspects of music: rhythm, timing, and movement. Overall, the chapter focuses on the connection between the three. Hamilton writes, “The experience of musical rhythm does not only involve experiencing music as behaving like a human body; it also involves experiencing the human
body as behaving musically—that is, the person as moving musically” (144). Hamilton also implies that movement and music are linked, although focuses more on the rhythmic aspects.

*Music Senses Body* (2008), edited by Dario Martinelli, discusses how bodily movements are determined by genre and repertoire (419).

> Evidently, when one is playing a Bach prelude or a Beethoven sonata, one is behaving accordingly to the constraints of the appropriate behavioral codes (although even here some deviations are possible). Thus, as it has been demonstrated, the variables that determine bodily movements of a performer are of very different types: from the difficulty of a piece or the performer’s hands to the cultural codes. (419-20)

Other topics discussed are the performer’s relationship to the instrument, the performer’s existence on stage, the body as a message, and the different ways spectators interpret expressive gestures. Hamilton recognizes that different rhythms lead to different movements, and Martinelli more broadly states that the entire genre and repertoire leads to different movements (including the rhythm and timing of each genre or piece).

“Moving, Feeling and Hearing: An Introduction to Music Learning Theory and the Work of Edwin E. Gordon” (2008), by Alison Shaw, can be found in *Percussive Notes*. The article discusses *Music Learning Theory*, a comprehensive method for teaching audiation (mentally hearing and comprehending music). It also provides thoughts and quotations from Edwin Gordon, a former member of Gene Krupa’s band, as well as a music educator and researcher. In regard to rhythm, Gordon promotes body movement over relying on the brain to count. He writes, “It’s the body; it’s movement that is most important” (52). This refers less to the overall perception of the performance, and more to the individual performer’s experience while making music. Similar to Hamilton and Martinelli, Gordon emphasizes rhythm in relation to movement.

*Kinesthetic Perception of Music: A Thematic Analysis of Musician’s Descriptions* (2010), by William Douglas Hall, presents a study “to describe the experience of music as movement to understand if there is a shared kinesthetic perception of specific musical elements” (ii). This was an interview-based study with trained musicians playing a piece of their choice and being questioned about elements in their piece and any kinesthetic or bodily sensation they associated
with it (ii). I wonder how the individuals in this study can be compared with different instruments and styles of pieces. Hall analyzed timing and tempo in this study, and mentioned that many performers found the alterations in tempo/timing to be an expressive gesture. As a performer, myself, I agree with that. This leads to another topic of gesture typologies, which is mentioned in the latter part of the next source.

Gestures

In *Theatre of Movement and Gesture* (2006), Jacques Lecoq discusses movement for actors, which could also be applied to musicians or other performers. In the first chapter, Lecoq covers imitation. This could explain why performers who have studied with the same teacher and gone to the same university would move similarly, as I later discuss based on my own findings. Lecoq notes:

> Imitation is not necessarily a deliberate act: people who live together come to imitate one another without realizing it. This can be quite remarkable between long-married couples. Look at how, bit by bit, they have begun to resemble one another, have exchanged gestures, voices, thoughts. Mutual sympathy, love, the habit of being together, of sharing the same ideal, can lead to a resemblance even between people who were quite different to start with. (3)

Lecoq also discusses three major groups of gestures: action (tend to involve the whole body), expression (involve the emotions and the person’s basic states), and demonstration (punctuate words, or precede, prolong or replace them) (9). Although this is very simplified, Lecoq demonstrates how a framework is necessary to discuss movement. One type of movement often discussed is “efficient” movement. Multiple authors refer to “efficient” playing as a positive aspect of performance.

Economy of Motion and Efficiency

“*A Motion and Muscle Study of Percussion Technique*” (1968), by Lt. Donald W. Stauffer, informs percussionists of the movement principles needed in performance. He discusses topics such as muscular physiology, motion of basic strokes, and the laws of motion. Other areas
addressed are muscle efficiency, a repetitive stroke study, and practical applications. Stauffer’s aim is to emphasize the importance of the many physical, psychological and physiological principles that contribute to percussion performance. Along with many other movement researchers, Stauffer stresses efficiency of movement, particularly in percussion performance. He describes efficient movements as the important type of gesture, as opposed to ancillary or expressive gestures.

“Mastering the Motions for Multi-Toms” (1996) is an instructive article by Marc Churchill which discusses the Cavaliers Drum and Bugle Corps approach to movement control of the sticks, hands and arms in order to play multi-toms (quads, quints, or tenors). According to him, the most basic principles are two motions: vertical (to create sound) and horizontal (to switch drums); any other movements are discouraged: “The most important concept here is that the player only moves in the specified manner and only uses the muscles that operate these movements” (29). Churchill establishes a common vocabulary for areas of the body, discusses muscle groupings, how to use the correct muscles to play, and observations he has made in regard to common errors. The article continues to stress efficiency of movement in order to conserve energy and gain accuracy in playing. It also establishes a vocabulary in order to discuss and instruct movement.

*Voice and the Alexander Technique* (2005), by Jane Ruby Heirich, is intended for “voice explorers”, as it uses the singing and speaking voice as the medium to introduce basic principles of the Alexander Technique. Heirich describes the technique as being:

> ...about efficiency of muscle use. It is not a relaxation technique, but about balanced strength, coordination, and ease of movement...[it is about] dynamic poise in movement...conscious control of the total self, [and] bringing to the conscious level that which has been unconscious and habitual, in order to change habits of thought and movement. (7)

The book would serve well in a lesson setting with an Alexander Technique instructor. As Churchill also mentioned, efficiency of movement is important in performance in order to conserve energy and to maintain control. If the ancillary movements are causing the performer
to lose energy and control, then the gestures have become excessive and should be reexamined and/or reduced, a concept not frequently discussed in movement literature.

*Movement for Actors* (2002), edited by Nicole Potter, is an informative collective book meant for actors that could also be utilized by any performer. Efficiency of movement and “motion economy” is advocated in an example about factory workers (6). The Russian and Soviet theatre director Vsevolod Meyerhold writes,

> Through a careful study of the muscular coordination and system of levers already inherent in the human form, the actor can make the job of moving, gesturing, and speaking more effective by initially making it more efficient. He can then choose how to manipulate his movement, because he has already trained his body to execute what his mind and emotions ask of it. (6)

He continues writing about *otkaz*, “the body’s organic way of collecting the energy required for the action, holding onto it in anticipation for the ‘point of excitability,’ or the point at which the body senses is the right moment to execute the action” (7).

The importance of movement is stressed in this book, along with instructions of how to move and how to understand movement. However, there are disagreements on movement and gesture by the various authors. Fellow Russian director Constantin Stanislavski, for example, said, “Extra gestures are the equivalent of trash, dirt, spots” (70). Kari Margolis, on the other hand, writes,

> By expressing emotions physically, the actor can make a character’s “inner world” tangible. An audience can feel when they have been included in the character’s intellectual and emotional journey and will ultimately be more impacted by the choice a character makes. Void of this physical expression, the actor must resort to facial expressions, gimmicks, or gesticulations to explain a character’s actions. (175)

I found *Movement for Actors* to be one of the most enlightening sources on physical movement and gesture. It presented multiple perspectives and provided interesting angles on movement.
Extraneous Gestures

*What Every Singer Needs to Know about the Body* (2006), by Melissa Malde, MaryJean Allen, and Alexander Zeller, is a resource for vocalists and vocal teachers. This book discusses anatomy, physiology, and body awareness, covering topics such as breathing, phonation, resonance, articulation, and gesture. It includes chapters such as: (1) “Body Mapping, Kinesthesia, and Inclusive Awareness”; (2) “The Core of the Body and the Six Places of Balance”; and (7) “Physical Expression for Singers”. In Chapter 7, movement awkwardness is discussed and the following statement is made, “It is essential that all of a performer’s gestural movements have a meaning that is part of the artistic whole” (186). One consideration with this statement is that of text being sung. Singers have a unique challenge to convey meaning through their movements that match the meaning of the text being sung in order not to “confuse the audience” (186). Unlike much of the other research in musical movement, this book discusses unwanted movements and challenges within movement. These types of movements appear later in my thesis as “extraneous gestures” or “extra movements”. Performers often try to avoid these, so as not to take away from the music.

In *Through the Body: a practical guide to physical theatre* (2001) Dymphna Callery discusses the transaction and communication between the person on stage and the spectators.

* A defensive attitude towards the audience, as though they have come to judge...is counter-productive. Similarly, an attitude of ‘selling’ the show by using a kind of ‘kick’ energy will alienate rather than engage spectators. The goal is a real exchange, a sharing in the event. The actor’s task is to provoke the spectators’ imaginative participation, not to show what s/he can do. (103)

The exchange that Callery discusses is critical to musicians as well as actors. The balance must be found between overdone and underdone gestures. Also, the performer must blend outside visuals with their inner feelings (117).

*Dance with the Music: The World of the Ballet Musician* (1986), by Elizabeth Sawyer, is intended for musicians, dancers, teachers, and choreographers. Sawyer discusses the relationship between movement and music in ballet, and how dancers and musicians can relate. Chapter 9,
“Performance: musician and dancer”, discusses the physiology of performance. Sawyer claims that pianists play from their hands and fingers and not from their body, whereas, in regard to other instrumentalists, she states the following:

_The good ones always move, in ways consistent with the nature and mechanism of their instruments. The string player sways and bends, the wind player moves in accordance with the breath-requirements of his instrument and the music he is playing, and the percussionist approaches dancing as he beats out his rhythms and sonorities. The good singer, also, like the wind player, moves in conjunction with her breathing of the phrases and the expressive content of the music. In contrast, the pianist glues her bottom to the seat, with two arms extended, which propel hands and fingers up and down a stationary keyboard.... Herein lie nearly all of the physical, and many of the musical, problems of playing the piano (I know that some pianists go to the other extreme and sway and weave almost to the point of seasickness. Despite their apparent bodily sensitivity, they are not much more alive than the first type. Their movement stems from self-expression or emotionalism and, as such, is sucked into the music, an alive body, on the other hand, is always generating the music). (206)"

Although this seems to be a bold claim about pianists, and a pianist, him/herself, may be offended by Sawyer’s statement, her claims have some merit. Of course this does not apply to all pianists, but Sawyer is commenting on the sound-producing movements in relation to the nature of how the piano is laid out. Just as a flutist must raise his/her arms up and to the right, a pianist must sit on a bench with arms extended. Sawyer continues to discuss ancillary movements in such a way that recognizes “true” movements, as she describes them.

“Avoiding the ‘Marimba Shuffle’” (1998) is an article by marimbist, Janis Potter. The focus of the article is to advocate body movements in marimba performance so as to lead to more effective playing. Potter writes that the movements must not be awkward or disturb the sense of flow. Her main complaint in marimba performance is the marimba shuffle. She writes, “It is the pattern of stepping to the side repeatedly to get to one end of the marimba-often involving a quick sliding or shuffling of the foot. Step right, slide the left, together; step right, slide the left, together; etc.” (42).
Potter says that the sound of the marimba shuffle is distracting to the audience, but the rigid appearance is even more distracting. Her solution is to present particular types of foot movements such as the Cross-Step, Back-Cross, and Back-Cross/Left-Face. Although extremely calculated and possibly difficult to implement, her methods could provide assistance for those willing to spend the time. Potter’s pet peeve of the marimba shuffle sound during performance is a common one. Whether it is Evelyn Glennie doing the “marimba shuffle”, or Yo Yo Ma tapping his foot, some audience members will not be able to accept these sounds and/or visual aspects of, even an amazing, performance. This is the nature of being a human being, attuned to multiple sensory aspects of a live musical performance. There have been multiple studies conducted on this issue of visual versus aural in a performance setting. Is one more powerful or are they equal?

Visual versus Aural

“The Influence of Visual Attributes of Solo Marimbists on Perceived Qualitative Response of Listeners”, a University of Oklahoma thesis (1985) by Cort A. McClaren, was followed by his Percussive Notes article in 1988 on a similar topic: “The Visual Aspect of Solo Marimba Performance”. In his thesis, McClaren asks the following questions: 1) How important is the visual presentation of a performance? 2) Can a bad visual experience ruin the performance? 3) Can a good visual experience make the performance (even if the aural experience is poor)? He further discusses these results in his 1988 document, which I discuss in detail below. Both documents present questions rather than answers from the beginning. They approach movement research as something to be “figured out”, as opposed to instructing the reader from the beginning about how to move, or how crucial movement is to music performance.

McClaren’s approach is valid, especially given that each individual moves differently while performing due to multiple factors previously discussed. McClaren asks interesting and valid questions regarding visual versus aural, however, it must be remembered that each audience member is an individual with different observations and desires. One audience member may say that the visual aspects of a performance made that performance wonderful while another audience member could argue that the visual aspects were distracting and distasteful. Adding the
audience component to movement research creates another dimension that will not be the central focus of my research.

McClaren quotes marimbist and author of *Method of Movement for Marimba*, Leigh Howard Stevens. Stevens brings back the idea of efficiency when he writes, “…today’s performance problem is not so much striking individual notes or groups of notes as it is getting to those notes.” Stevens believes “that this is the area in which traditional methodology is inadequate to the demands made of the marimbist of contemporary music: efficiency of movement” (25).

“The Visual Aspect of Solo Marimba Performance” (1988), by Cort A. McClaren, focuses on the same three questions as his previously mentioned thesis. The study presented consists of seventeen solo marimbists from three universities in North Carolina, including one freshman, three sophomores, five juniors, four seniors, and four graduate students. All of the subjects performed the same marimba solo, *Suite Mexicana* (1983), by Keith Larson. Particular factors, such as the starting position of each performer were controlled. Factors such as sex or age, however were not controlled. The results revealed that the observers consistently rated the combined “visual/aural” performances higher than the “aural-only” performances.

A related study at the Percussive Arts Society International Convention was conducted in 1987, revealing similar results (57). Studies of this nature often conclude that the visual component of performance is of utmost importance to the listener’s experience (i.e. Jane W. Davidson’s 1993 study mentioned in this document). Many studies related to physical gestures discuss the listener’s experience, as did McClaren. These studies are useful and legitimate as long as the researcher realizes the many factors involved that may prompt listeners’ subjective responses.

“Visual Perception of Performance Manner in the Movements of Solo Musicians” (1993), by Jane W. Davidson, explores the information conveyed by movements when the performer is asked to play one piece in three different expressive manners: *Deadpan*, *Projected*, and *Exaggerated*. The observers, not knowing which of the three manners are being expressed from the beginning, must make assumptions, first, based only on visual information, second, only on sound, and third, on both sound and vision.

Davidson begins by mentioning that music perception studies have more often focused on sound than on the performers’ body movements. She concludes that vision was not only a useful
source of information about expressive manner, but it more clearly specified expressive manner than the other modes in this study. Her goal is to emphasize visual as well as auditory information in regard to music perception, a common approach to movement research documents, particularly in the area of percussion. It seems that her study goes a step beyond most in that it deems visual as more informative than auditory.

Davidson’s response to McClaren’s third question of whether a good visual experience can make the performance (even if the aural experience is poor) would likely be “yes”. However, this depends on the audience member and what he/she is looking for to “make the performance”. Is the audience member looking for efficient movements without any ancillary movements, or would he/she rather see ancillary movements?

“Expressiveness of Musician’s Body Movements in Performances on Marimba” (2004), by Sofia Dahl and Anders Friberg, focuses on emotional intentions conveyed through musicians’ movements. A study was conducted where 20 subjects were presented with video recordings of one marimbist performing the same piece with different emotional intentions: happy, sad, angry, and fearful. The video clips were shown without sound, and the observers were asked to rate the perceived emotional content, as well as the movement qualities. Results showed that the happy, sad, and angry intentions were well communicated, but fear was not (479). Implications of this study are somewhat ambiguous: Is the study intending to show that certain emotional feelings are more easily conveyed or is it intending to show that emotional intentions may indeed be conveyed through visual content without audio content? Regardless of what it intends to present, the common thread of the visual component of performance being important is ever present.

Music and Gesture (2006), edited by Anthony Gritten and Elaine King, is a compilation of multiple articles by different authors. Movement and gesture terminology varies throughout the book, as well as the authors’ opinions. One author might use “effective” and “expressive” while another uses “sound-producing” and “ancillary”. Gritten and King talk about gestures as being cultural, contextual, circumstantial, based on time period, etc. They also say that the viewer determines gesture. William Echard asks an important question in Chapter 5: “What are the implications of going a step further and claiming that the quality of movement is somehow immanent to the music itself?” (xxii). This raises the question of whether sound-producing and ancillary can actually be two separate categories.
In Chapter 10, Bradley Vines and Marcelo Wanderley analyze clarinetists’ ancillary (expressive) gestures, graphing them based on movement patterns of the instrument’s bell. This study presents information on a particular type of moving in one instrument group. Gritten and King indicate that after analyzing the production of ancillary gestures, the repeatability of ancillary gestures, and the production of similar movement patterns by different performers,

Wanderley and Vines show that performers’ expressive movements are neither random nor just produced as a visual effect, but are an integral part of the communication process established during the performance, and represent another level of information complementary to that present in the sound produced through the instrument. (xxiv)

In my research, I cover similar topics in regard to marimba performance instead of clarinet performance.

Vines and Wanderley allude, in Chapter 10, to Francois Delalande’s 1988 study, which divides gestures into three levels: (1) **Effective gestures**, those that actually produce the sound; (2) **Accompanist gestures**, expressive body movements; and (3) **Figurative gestures**, gestures perceived by a listener, but without a direct correspondence to a movement of the performer. This division was constructed as part of a study based on the musical implications of Glenn Gould’s accompanist gestures (165). The book also discusses the body motions of Keith Jarret (192), and the functions of body movement in stage performance with an analysis of Robbie Williams’ movements. Vines and Wanderley not only research **effective** (sound-producing) and **accompanist** (ancillary) gestures; they also study **figurative gestures**, adding the audience component, similar to McClaren.

*This is Your Brain on Music* (2007), by Daniel J. Levitin, presents a section on movement. Levitin says, “If music serves to convey feelings through the interaction of physical gestures and sound, the musician needs his brain state to match the emotional state he is trying to express” (210). He also mentions studies by Marcelo Wanderley and Bradley Vines, which show that audience members are able to extract some meaning with solely visual or sound aspects, but that the two aspects together provided the full picture. This relates to Jane W. Davidson’s study in “Visual Perception of Performance Manner in the Movements of Solo Musicians”. Davidson,
however, concluded that visual information more clearly specified expressive manner than any other mode, whereas Wanderley and Vines concluded that visual and sound aspects, together, provide all of the information needed. As previously discussed, this discrepancy stems from subjective responses from audience members.

Seeing Music? What musicians need to know about vision (2008), by Michael Schutz, stresses the importance of visual aspects of music. “Vision influences many aspects of music, from evaluations of performance quality and audience interest to the perception of loudness, timbre, and note duration. Moreover, it can be used to achieve musical goals that are in fact acoustically impossible” (83). Schutz does not find visual information to be a distraction, but rather a useful tool for musical communication (83). He discusses the connection between vision and hearing, and writes that visual aspects are more powerful than aural in a live performance (85-86). As mentioned in my introduction, Schutz discovered that gesture length affects one’s perception of sound on the marimba, a key point of discussion in this field of research.

The Mind of the Listener: Acoustics, Perception, and the Musical Experience: Do longer gestures make longer notes? (2009), was written by Michael Schutz in order to explore the question presented in the title as well as the question of whether music is purely an acoustic phenomenon. He mentions percussionist, Buster Bailey’s view that the change in arm, hand, or wrist movements can project different styles and sounds based on how the player is feeling and projecting the stroke. This idea contrasts the marimbist, Leigh Howard Stevens’ view that gesture length is irrelevant, arguing it has “no more to do with [the] duration of bar ring that the sound of a car crashing is dependent on how long a road trip was taken before the accident” (22).

Schutz conducted an experiment to test this question raised by contrasting ideas of Stevens and Baily. In Schutz’s study, marimbist, Michael Burritt was recorded playing individual notes using either long or short gestures. Fifty-nine Northwestern University undergraduate music majors were asked to rate note duration in each video based on the sound alone. Schutz had mismatched some of the auditory and visual components previously. The results showed that there was no perceptual difference when presented as audio alone, which asserts Stevens’ claim. However, the results showed that long and short gestures do change note length when participants were presented with both the audio and visual, supporting Bailey’s claim.
Movement Analysis

“Music, Movement and Marimba: An Investigation of the Role of Movement and Gesture in Communicating Musical Expression to an Audience” (2009), by Mary Broughton and Catherine Stevens, presents an experiment conducted in order to explore the idea of visual movement in marimba performance having capabilities to communicate to an audience. The subjects of the study included one male and one female professional musician, each asked to perform with two different types of performance manners: projected (public performance expression) and deadpan (minimized expressive features). Twenty-four musically trained and twenty-four musically untrained observers rated auditory-only and auditory-visual presentations of solo marimba excerpts, in terms of expressiveness and interest. The results showed that higher ratings were given for the projected performances than for the deadpan. Broughton and Stevens use the same terms that Davidson used in her study, although do not include exaggerated. As is apparent from the studies mentioned, most researchers develop their own analysis system to observe the participants’ movements.

*The Mastery of Movement* (1980) by Rudolf Laban, is one of the most influential books about movement in performance. Laban developed his own notational system for recording and analyzing movement. His system is widely used in dance and increasingly used in music. The book discusses his philosophies on movement as well as information about his analysis system. One topic Laban mentions is in regard to efficiency. “The greater the economy of effort the less apparent is the strain. High economy of effort makes movement look almost effortless” (5-6). Economy of motion and economy of effort are different. Economy of motion might refer more to minimizing extraneous motion whereas economy of effort might refer to minimizing or economizing effort of that motion. The motion could still be large, noticeable, and even be obviously unnecessary. However, if the motion looks effortless, the player would be using a high economy of effort with a less apparent strain, which would therefore make the “extraneous/ancillary” gesture potentially positive and not negative to the viewer.

Lisa Sandlos is a Toronto-based Laban Movement Analysis (LMA) specialist who also dances and teaches at York University. Her clear explanation of Body Effort Space Shape (BESS) in her article, “What is Laban Movement Analysis?” assists in further comprehension of LMA.
LMA provides a clear framework and a vocabulary for movement. Movement is understood and experienced through Body, Effort, Space, and Shape (BESS). It clarifies body articulation and use of space and also opens qualitative possibilities for dancers through Effort (weight, space, time, and flow) and through Space (relating to one’s environment, to others, and to the world). BESS approach allows for systematic analysis of the complexity of human movement, both functional and expressive. (Sandlos 2011)

*Body-Space-Expression: The Development of Rudolph Laban’s Movement and Dance Concepts* (1987), by Vera Maletic, begins with a discussion of Laban and Gertrud Snell’s terminology and definitions of movement and gesture. Maletic explains Laban’s philosophies on movement, delving into topics such as counter-movement, physiology, relationship to objects, etc. Chapter 2 discusses the development of concepts of dynamics, eukinetics, and effort. Maletic writes,

> When we observe human movement we can notice first of all its regular change. It is a change between waxing and waning of the manifestations of force between tension and release which extends and contracts, lifts and sinks the body, which subjects all movement to a kind of pulsation, to breathing. (94)

Maletic stresses that when dealing with Laban’s Effort theory; the dynamic structure or the quality of movement must be kept in mind. The full meaning emerges when the preceding and following motions are taken into consideration, making the event a sequence (180).

*Analyzing Expressive Qualities in Movement and Stillness: Effort-Shape Analysis of Solo Marimbists’ Bodily Expression* (2012), by Mary C. Broughton and Catherine J. Stevens, discusses Laban Movement Analysis, specifically effort-shape analysis as a system that can be applied to musicians’ bodily expression (339). Referencing Irmgard Bartenieff and Dori Lewis’ study about rhythm and timing (1980) and Warren Lamb and Elizabeth M. Watson’s study regarding body language, gesture, and posture (1979), Broughton and Stevens write,

> The extent of bodily shaping reveals personal commitment to an activity; for example, bodily shaping highlights whether a musician is fully engaged in their performance or just ‘going through the motions.’ Postural effort displays whole-
bodily involvement in an activity as opposed to gestural effort where only the body part required to perform the job is utilized. (344)

Broughton and Stevens conducted a study with two professional marimbists (female and male) performing sixteen audio-visual excerpts of marimba pieces. Assessments were based on Effort-shape analyses and interjudge reliability, with a focus on three tasks including verification, independent analysis, and signal detection yes/no (339). Interjudge reliability is when participants are examined with the same test, but with separate or independent examiners. Results suggested “psychological or perceptual validity of transformation drives and shape components of effort-shape analysis; interjudge reliability for basic effort actions remain to be confirmed” (351).

*Personality Assessment Through Movement* (1972), by Marion North, is partially about Rudolf Laban’s philosophies and contributions to movement research. North also discusses his own opinions on movement:

> It becomes apparent through observation that mental and emotional attitudes play at least as great a part as physical structure in determining which type of movement will predominate in a person. Human beings are never categorized so easily, many of us are mixtures, and it is possible to discern all kinds of combinations of predominant styles, as well as those people who conveniently fit into one category. (17)

North implies that physiology does not solely determine how one moves. Rather, it is also about his/her mental and emotional attitudes.

**Expressive and Emotional Gestures**

In *The Singing Neanderthals: The Origins of Music, Language, Mind and Body* (2005), Steven Mithen discusses the history and roots of human beings and how they communicate. Music and emotion, physical signals, uncontrollable gestures, gender differences, mood, rhythm and movement, as well as entrainment are only a few of many topics covered in Mithen’s book. Entrainment is defined as the automatic movement of body to music, describing the connection between music and motion (153). The importance of visuals and gestures are stressed in this
book. “To exclude the gestural side, as has been traditional, is tantamount to ignoring half of the message out of the brain. Thus body movement appears to be as crucial to language as it is to music” (155). Mithen clearly finds movement to be of utmost importance.

*Time, Love, Memory* (1999), by Jonathan Weiner, briefly discusses gestures. Weiner references Charles Darwin’s questionnaire that was sent to explorers, missionaries, and “protectors of the aborigines” in every corner of the British Empire, which asked questions about gestures. The first question asked how astonishment would physically be expressed. The second asked if shame leads to blushing. The third asked specific details about a man’s gestures if he is defiant. The last question asked about gestures related to puzzlement or consideration. He concluded that, “people’s expressions are broadly the same all over the planet” (78). This theory aligns with gestures as a natural part of life, and also claims that certain gestures are naturally universal.

*The Expressive Body: Physical Characterization for the Actor* (1997) by David Alberts discusses movement and gestures in the first chapter. He defines movement as “any physical action that involves larger areas of the body, such as the legs or the torso, or uses the body as a whole in a series of organized activities intended to achieve a particular objective” (1). He defines gesture as “a physical action that involves using a limited area of the body-usually the fingers, hands, or head-to express or emphasize an idea, an emotion, or an attitude or to convey information” (2). In these definitions, Alberts implies that the face, head, and breath would be considered gestures whereas the torso, arms, lower, and body would be movements. However, I found in my research that any area of the body could produce a gesture or movement. If a gesture is something that conveys information and expresses an emotion, then it could come from any area of the body. A lower body gesture, such as a foot stomp, could convey anger or another emotion, for example. Alberts later discusses this idea when he writes; “Every activity performed on stage holds expressive potential that an actor can tap… It is the manner in which the activity is performed that imparts meaning to it within a particular context…” (5).

*Deepening Musical Performance through Movement* (2007), by Alexandra Pierce, is geared toward enriching a musician’s experience and understanding of music through physical gestures. Pierce explores movement through elements such as melody, beat, and structure. She divides movement into “musical” movements and “effective” movements, similar to ancillary and sound-producing. She also covers topics such as stance and posture, engaging the body in
relation to the contour and melody, moving to the beat, embodying reverberation, facial response versus full body movements, and showmanship.

**Movement Terminology and Choreography**

“Marching Percussion Visuals” (1987), by Will Rapp, discusses the time commitment involved in adding a visual component to marching drum lines. He begins the article by informing the reader of the general fascination in the area of visual effects. He does not suggest that marching drum lines must incorporate a visual component, however, he does mention the advantages:

> By the very nature of the art, drumming is quite visually oriented. While it is difficult for non-musicians to understand the process of sound production on a wind or brass instrument, it is much easier for them to understand it on a percussion instrument because they can see how it is accomplished. Thus, a certain amount of thought and energy must be channeled into how the percussionist moves the sticks and mallets to the instruments, and how movement from one instrument to another is accomplished for a successful performance.

(11)

Rapp also says that the problem in teaching visual effects is the lack of standardized terminology. He presents five visual categories: Musical (backsticking, twirls, flips), Static (occur during rests; larger than musical visuals), Sequential (down the line or sequential repetition), Expressive (body or instrument movement as an interpretation), and Marching (marching and maneuvering in formations). There are likely other categories that could have been mentioned, and likely overlap between categories, but the five visual categories that Rapp presents have assisted in drum line instruction.

His two main issues are relevant to all areas of percussion. First, Rapp addresses the question of whether to incorporate visual aspects (ancillary) in a performance. He recognizes the time and effort that it takes to accomplish this, but also mentions the benefits. Secondly, he presents the issue of terminology. How do we discuss movement in an instructional situation? Is it possible and necessary to standardize terminology? This relates to the issues I discussed in my introduction in regard to “types of movement”. The spectrum of possibilities within movement
is difficult to categorize, however, as shown in this document, many authors create their own categories. The next source references choreographed gestures.

“Blue Man Group and Stomp: The Performer’s Perspective” (2003), by John Lane, includes interviews with Todd Perlmutter from Blue Man Group and Dan Weiner from Stomp. Perlmutter mentions that one must go through the physical aspects of drumming in order to be able to focus on making the music feel good (12). Weiner says that to be in Stomp, he was not required to have dance training, but he was required to “move well”. He mentions the use of choreography in the show, but also the freedom that each individual possesses in order to move in his/her own way: “It is necessary to understand the physicality of playing and be able to play what you hear: You just have to learn how to make your body do it” (13).

Lane’s article discusses movement in the context of a commercial percussion group that has many choreographed and unified gestures. This can relate to many other musical contexts such as Japanese Taiko drumming, African drumming (stage performance), marching bands, chamber music, and even orchestral music. When one musician is placed next to another, the comparison of movements is inevitable. Will they be completely unified, partially unified, or free to move in their own ways? Ensemble performance differs largely from solo performance when physical gestures are taken into account. In a group setting, individual performers may be encouraged to look uniform and to avoid standing out, which is very much the case in a marching band/drum line. In a solo setting, all eyes are on the individual performer, allowing him/her to move freely.

**Individuality**

“Drumming in the Dark? An Interview with Steven Schick” (2004), by Ricardo Souza and Christine Conklin, discusses questions related to solo percussion performance and movement. One question asked was in regard to Schick’s statement, “in percussion music, physicality is a powerful force and a central agent of expression.” The interviewer asks if this physicality can be learned since it may not be natural to all players, and if so, how can it be developed? Schick’s response claims that physicality is not learned but is imposed by percussion. He says,

\[
\text{Percussion instruments played by anyone in any context, prompt inherently physical modes of performance. The objects we use as instruments demand that}
\]
we use our minds and our bodies. Nothing else is possible. The fascinating thing about percussion playing is that, just as everyone’s body is different, everyone’s mode of physical expression in performance is different. Percussion playing reveals these differences and celebrates them as interpretation (55).

Schick’s comment that “everyone’s body is different” is crucial and I will further discuss this topic throughout the thesis.

*Music, Talent, and Performance: A Conservatory System* (1988), by Henry Kingsbury, discusses movement in Chapter 4, “Lessons with the Master”, in the context of Marcus Goldmann’s [pseudonym] piano classes. Goldmann mentions the association between physical motions and “playing with feeling”. He particularly emphasizes the hands and arms, as well as the physical motion of breathing. His teaching style incorporated physical, bodily directives, such as instructing students where to breathe, and also where to use hand and arm weight.

While instructing a student in the Beethoven *Cello Sonata, opus 102, No. 1*, Goldmann showed the student that in order to gain the proper interpretation of the piece, particular arm movements were necessary. If the student did not raise and drop her hand at the moment that Goldmann instructed (during a specific eighth rest in the piece) then the “proper” feeling of the phrase would not be conveyed to the audience (96-7). Goldmann’s teaching style was more directive than suggestive, as Goldmann wanted his students to “realize” the music as he had. His instruction in movement is particularly interesting as it raises the point of using movement in performance in order to gain a certain sound. Goldmann is suggesting that the raise and drop of the hand is a [particular] sound-producing gesture, not an ancillary gesture. As Schick reminded us, “everyone’s body is different” which means the same sounds may not be produced with different-sized bodies, depending on the instrument and physical action.

“Spatio-Motor Thinking in Playing Folk Blues Guitar” (1992), by John Baily and Peter Driver, begins by discussing music structure and human movement, focusing on ergonomic and cognitive factors. They describe musical instruments as transducers, which can “convert patterns of body movement into patterns of sound” (57). They say that Folk Blues Guitar style is highly compatible with the spatial layout of the guitar. Depending on the musical genre, different patterns of movement may be present which are specific to the style of playing. These basic
patterns and positions may determine what develops as a “motor grammar” (63-5). This relates back to Dance with the Music: The World of the Ballet Musician, as Elizabeth Sawyer pointed out the ergonomics of particular instruments leading to certain sound-producing gestures. In the conclusion, Baily and Driver reinforce the point that studies of cognition in music must take into account that of human movement as well as the control of movement.

_Guitar Zero_ (2012), by Gary Marcus, tells the story of a man who felt musically challenged and was told he had arrhythmia. The book discusses the process he went through and research he conducted to better understand the music learning process as an adult. Marcus asked the nature versus nurture question in relation to music learning. He also discussed the importance of bodily connections in music. “For your average two-year-old, banging on a drum in time with music may be too challenging, but music comes from the body first, even before children can play instruments, and the Dalcroze method seemed to be effective in helping bring out the connection” (75-6).

Marcus describes one of his guitar teachers, who he found to be unique,

> *Her emphasis was almost entirely on the mechanics of proper motor control-on getting one’s muscles to do what one wants, as efficiently as possible, with as little tension as possible (reminiscent, for those who know it, of the Alexander technique, but applied to guitar); everything centers around perfect posture and smooth motion.* (78)

This brings back the topic of economy of motion and efficiency. He later discusses the show aspect, noting, “Many guitarists will slide their hands up and down the fret board not because they have to (musically speaking) but just because the sudden dramatic motions keep the audience engaged (and seem more difficult than they really are)” (178). Marcus brings up a good point that was not previously discussed about the idea of making things appear difficult through showy movements. That may be another reason that ancillary gestures occur for certain performers at given moments.
Related Research Studies and Method Books


Some method books mention physical gestures, although with an emphasis on efficiency of movement. For example, in “Modern Mallet Method for Vibes, Xylophone, and Marimba”, Phil Kraus instructs the reader to only use one’s wrist in four-mallet technique. He writes, “The arms are used only to move the mallets sidewise—never up and down” (viii). In “Xylophone and Marimba Studies”, Howard M. Peterson instructs the reader to turn one’s body and hands when necessary, in order to change chords. He provides information about how to accomplish the “Right Turn”, “Left Turn”, and “Double Turn” positions. His focus is on efficiency of movement, similar to Kraus.

**Literature Summary**

All of the sources in this literature review relate to movement and gesture through areas such as music, dance, and drama. Each source offers a unique perspective to movement, based on the author’s experience. Some common threads throughout the array of sources are: the discussions of economy of motion and efficiency; types of gestures; and connections between audio and visual aspects of performance.

The authors who mentioned economy of motion were Beck, Rausch, Stauffer, Stevens, N. Potter, Marcus, and Laban. The same authors except Laban, also mentioned efficiency. Other authors who mentioned efficiency were Churchill, Rapp, Robinson, Heirich, Kraus, and Peterson.
Marcus and Davidson discussed ancillary gestures, while Stauffer, Kingsbury, and Sawyer discussed sound-producing gestures. Pierce and Wanderley/Vines mentioned both ancillary and sound-producing gestures. Audio/visual aspects were mentioned by Schutz, Dahl/Friberg, McClaren, Broughton/Stevens, Wanderley/Vines, Davidson, and Levitin. All of the sources listed in this paragraph are significant to my research, and I refer to them throughout this thesis.
Chapter 2
Exploring Terminology

2 Introduction

There are many terms associated with the physical aspects of performance that require clarification since they can be interpreted in multiple ways. These terms include: *motion*, *movement*, *gesture*, *sound-producing*, *ancillary*, *expressive*, *emotional*, *choreographed*, *necessary*, *efficient*, *economy of motion*, *repetition*, and *repeatability*. Chapter 2 is divided into three sections A) Motion, Movement, and Gesture, B) Gesture Typologies, and C) Associated Terms. In each section, I present my own definition of the term as well as terminology currently used by scholars and participants in my study. It is to be assumed that scholars and performers may think about these terms differently because they are coming from different perspectives.

There rarely seems to be confusion when verbally discussing the topic of physical movement, motion, and gesture. However, in writing, the definitions of each related term could cause discrepancies. In the interviews, I did not ask participants to define their terms. This is positive because it allowed them to speak freely without thinking about the precise meaning of the words, causing them to use motion, movement, and gesture the way they normally would in conversation. The drawback is that it is difficult to tell whether they differentiate between the three terms, because I did not directly ask them to define the terms. By following up and later asking them what they meant, I may not get the initial meaning or use within the context of our personal correspondence. Many scholars define the terms *motion*, *movement*, and *gesture* after having the opportunity to give those definitions much thought and time to phrasing them the exact way they intent to phrase them. This creates a difference among scholars’ and participants’ statements about these terms throughout this section. Participants will be referred to by their first name in this section and the entire thesis.
2.1 Motion, Movement, and Gesture

Motion

The terms motion and movement are often used interchangeably as they both can refer to the same aspects of performance, such as changing place or position. If a marimbist lunges to reach a note in performance, he/she is using a large motion or movement to produce a sound on the marimba. Some scholars distinguish between such terms while others do not. In Cort A. McClaren’s 1985 thesis, he writes, “For purposes of this study, the terms body movement, body gestures, body motion, gesture, movement, physical movement, and their derivatives will be used interchangeably” (21). After reading this statement by McClaren, I began to wonder how many other authors and musicians use these terms as synonyms.

Many participants in my research study mention the term motion in their interviews, even though I consistently asked questions with the term, movement. In response to an interview question about changing movements for different pieces, David Schotzko says that he does change movements for different pieces.

*Whether on marimba or percussion, one sounds like one moves. Movement decisions are part of the interpretation of the piece and different works call for different interpretations and require different motions... My rule of thumb: every gesture I make should be reproduced in sound. I try to weed out all motions that do not produce (or enable) sound or sound making.* (Schotzko 2012)

David uses the terms movement, motion, and gesture to discuss the same type of act. This aligns with McClaren’s approach of using similar terms interchangeably. Most people use them as synonyms in conversation and sometimes in writing.

Doug Perkins says, “Jim Culley and Percussion Group Cincinnati taught me to make clear strokes and motions to make chamber music easier. Bob Van Sice made my motions smaller and more efficient. As a big guy, he helped bring my movements into focus” (Perkins 2011). In Pius Cheung’s interview, he says, “…unless it’s like the drama/music kind of piece where movement is part of it, I don’t see any point of making a motion that doesn’t have to do with the
sound; that’s just the way I was taught” (Cheung 2011). David, Doug, and Pius all use motion and movement interchangeably in their responses, and refer to both terms as the act of moving.

Tom Burritt writes in his interview response,

> When I consider upper body movements (waist up including hands) I use, as a guide, what I call my 6 M’s: Make a Musical Motion that Matches the Musical Moment...I use this to indicate articulation mostly, trying to indicate differences between legato, staccato, marcato, and things like slurs... My motions in general would match the overall and specific moods of that particular piece. So, there should definitely be a connection. (Burritt 2011)

Tom begins by using the term *movements*, most likely because the question used the word movements. By the next sentence, he switches to the term *motions* as he explains his 6 M’s approach. Later, he discusses motion in relation to communication, “Every motion I make is centered around that idea of: Is it natural? Is that what the body does naturally or is it natural to the body, even though it may be difficult to learn? What does it communicate?” (Burritt 2011).

Later in the interview, Tom says,

> We have to figure this out; and I see that as an integral part of this topic right here because if we don’t show the motion, especially if it’s a short note versus a long note, it doesn’t sound like anything different from the other. If we can at least communicate it through appropriate motion, then that gets us there. I think that’s what makes my interpretation of the Bach kind of work. If you don’t do any of that, you’re not left with much...in the communication of what’s there. (Burritt 2011)

Whereas most of the other participants use motion and movement interchangeably, Tom generally uses the word *motion* as a blanket term for any physical act related to playing the marimba. The next three authors also use the term *motion* more frequently than the terms *movement* or *gesture*.

In *Music and Gesture*, Steve Larson writes, “When our bodies move in ways that respect that interaction of physical forces (gravity and inertia), the motions are more graceful than they
would otherwise be” (63). Larson implies that the term *motions* is broad and covers all physical acts, which have the potential to be graceful. Generally, the term *graceful* might appear more often next to the term *gestures* rather than *motions* likely because *gestures* gets linked to emotions and expressivity more than the term *motions*.

Donald Stauffer’s article, “A Motion and Muscle Study of Percussion Technique”, discusses: muscular physiology; motion of basic strokes; the laws of motion; muscle efficiency; a repetitive stroke study; and practical applications. Stauffer focuses on physical, psychological and physiological principles that contribute to percussion performance. In regard to Stauffer’s article, McClaren writes, “He is most interested in explanations of motion and muscle efficiency as they apply to single strokes of varying heights, their speed, and the resultant effect on dynamics” (63). It is not surprising to me that Stauffer chooses the term *motion*, as it often gets linked to technical aspects of movement as well as efficiency.

In *Guitar Zero*, Marcus uses the word *motion* when he writes, “many guitarists will slide their hands up and down the fretboard not because they have to (musically speaking) but just because the sudden dramatic motions keep the audience engaged (and seem more difficult than they really are)” (178). Whereas some authors may choose to use the word *gestures* to accompany the term *dramatic*, Marcus chooses the term *motions*.

McClaren, David Schotzko, Doug Perkins, and Pius Cheung often used the three terms interchangeably. Tom Burritt, Larson, Stauffer, and Marcus consistently chose the term *motion* when discussing physical acts in performance. Referring again to the initial definition of changing place or position, we can infer that it is acceptable to use motion and movement interchangeably, as many people do. The tendency is to use *motion* as a general term and especially relating to technical aspects of physical movement, which is how I use the term: *motion* in this thesis.

**Movement**

*Movement* is a word that could be considered a blanket term, similar to *motion*. Some scholars in this field use movement broadly, often referring to any type of physical motion present in
performance. As discussed in the motion section, McClaren uses all related terms interchangeably.

When describing Jane Davidson’s study on musicians’ movements, Elaine King uses the terms *movement* and *gesture* without indicating a difference,

Davidson’s empirical research on musicians’ body movements provides valuable information about the role of physical gestures in performance, especially the type of movements produced by pianists. In her study of a solo pianist’s body movements (1991), she observed how physical gestures, including global body sway emanating from the hips (the ‘center of moment’) and localized head and hand movements, helped listeners to perceive the pianist’s performance manner (deadpan, projected or exaggerated). She also noted that these physical gestures were flexible in that they could vary from performance to performance, yet there was consistency in the timing of gestures at specific points in a piece (such as at a phrase boundary or climax. (2002:144)

In this paragraph, King frequently includes the terms *movement* and *gesture*, often switching back and forth between them, implying they are the same.

David Schotzko uses the terms *motion*, *movement*, and *gesture* within one statement. When asked if there are situations where it could be inappropriate to move while playing, David says, “This is a little vague, because all sound making requires movement. My rule of thumb: every gesture I make should be reproduced in sound. I try to weed out all motions that do not produce (or enable) sound or sound-making” (Schotzko 2012). Does the term *movement* generally refer to the broad topic whereas *motion* and *gesture* refer to more specific aspects?

In *Movement for Actors*, Susan Dibble states her definitions of gesture and movement:

To me, a gesture is an isolated movement of a body part: head, arm and hand, foot, or a combination of these parts-with an unconscious or conscious message. It usually has an emotion or intention connected to its delivery. A movement is an action created by the whole body, often traveling in the space. In the dictionary, the definition that is useful in acting is “a particular manner of moving.” A
movement can also be very subtle, and almost unnoticeable, but usually involves the body as a whole. (137-8)

Dibble is describing gesture to be an action that communicates something with an isolated part of the body, whereas movement is an act that involves the whole body. The part about gestures communicating something is a common definition, although her continuation about gestures involving part of the body while movements involve the whole body is less common. I find this division to be risky because gestures may not always be from an isolated part of the body. What about a percussionist leaning with the torso, head and legs in order to communicate something in his/her piece? This gesture involves the whole body, whereas Dibble says that is not possible.

In Music and Gesture, Vines and Wanderley discuss how they view movement, “Our data revealed that the visual aspect of the performances proved to contain a great deal of structural and emotional information. The clarinetists’ movements, including their facial expressions, postures, breathing and effective gestures, augmented participants’ experience…” (180). Vines and Wanderley imply that movement is the broader term with gestures being a potential sub category or type of meaningful movement.

The scholars and percussionists mentioned in this section each have their own way of using the term movement. Some use movement the same as motion and gesture, whereas others clearly distinguish between the terms. I consistently use the word movement in my interview questions, referring to any act of moving. It is interesting to see which participants continued using the term movement, and which participants diverted to motion and/or gesture in their responses.

Doug Perkins consistently uses the term movement in the following interview responses.

I think a great deal about movement while I prepare music. As a soloist, I think about how I am stroking the instrument and my body placement with regard to what I am trying to achieve. I tend to check my stroke, then wrist movement, then elbow placement, then hips and feet. In Velocities (1990) by Joseph Schwantner, I base most of my choreography around my hips…Working in a theatrical percussion trio taught me how to employ my body dramatically and taught me that we listen with our eyes and that our movements are powerful and communicative. Bob Van Sice taught me how to break down my movements and
to look at each aspect in a microscope. This taught me that not being able to play a passage has more to do with bad body movement than “just not getting it” and that fixing the body position is often a faster way to get to a positive solution. He also made my motions smaller and more efficient. As a big guy, he helped bring my movements into focus. (Perkins 2011)

Doug only uses the term motion (as a synonym of movement) towards the end of his statement.

Some participants write or say the phrases “movements AND gestures” or “movements OR gestures”. Both phrases are ambiguous and could imply that the participant thinks of the two terms as the same or as different. Beverley Johnston says, “lately I have been watching many videos of excellent marimba players so it has given me freedom to move the way I want to and know that extraneous movements and gestures can enhance the music as long as they evoke the sound being portrayed” (Johnston 2012). Ginny Armstrong provides another example in her statement, “I think each performer has to find movements and gestures that are natural to his/her style and personality/voice as a performer” (Armstrong 2011). Are Beverley and Ginny indicating that movements and gestures are the same or different?

Rudolph Laban, an expert in movement analysis, makes an AND statement when he writes, “Provided the performer’s movements and gestures are not clumsy, the public pays little conscious attention to them” (91). Similarly, Michael Schutz writes, “To some, effort spent choreographing gestures and movements may seem like time wasted…” (102). An AND statement would logically imply that the two items are different. However, Beverley Johnston, Ginny Armstrong, Laban, and Schutz do not explicitly distinguish between them in these statements. Are the terms movements and gestures that similar that they are frequently linked in sentences, or are they that different that they both need to be stated in order to properly convey meaning? My assumption is that most people link them together as being similar terms, although David Alberts does the opposite.

Alberts uses “Movement and Gestures” as the title of Chapter 1 in his book, The Expressive Body: Physical Characterization for the Actor. My first observation is that he uses the term movement as singular, and gestures as plural. He begins his chapter by defining the two terms as different from one another. Alberts writes,
A movement is any physical action that involves large areas of the body, such as the legs or the torso, or uses the body as a whole in a series of organized activities intended to achieve a particular objective. A gesture is a physical action that involves using a limited area of the body—usually the fingers, hands, or head—to express or emphasize an idea, an emotion, or an attitude or to convey information. (2)

Alberts and Dibble are not far off from one another’s definitions. However, Alberts says that movement involves “large areas of the body” instead of Dibble’s “whole body” idea. Alberts’ definitions leave me asking the question: Couldn’t any area of the body produce a gesture?

In my research study, I divide the body into seven body areas: torso, arms, lower, body, face, head, and sniff/breath. Alberts is implying that face, head, and breath would be gestures, whereas torso, arms, lower, and body would be movements? I disagree with this due to the fact that physical movements or gestures are not categorized and divided as easily as Alberts wants to believe. Who is to say that my arms could not produce a gesture that conveys information or expresses an emotion? He later writes, “…large body movements tell the audience what the character is thinking, while small body movements, particularly gestures, tell the audience what the character is feeling” (16). I also disagree with this statement, finding it to be overgeneralized and, at times, incorrect.

Aiyun Huang makes an AND statement when she says, “…some pieces I play, I’ve been playing for over ten years, and I’m sure my movements and my gestures have evolved or changed” (Huang 2011). Based on Aiyun’s other responses where she clearly separates the two terms, it can be assumed that this AND statement is referring to two different words with unique definitions. Also, the use of the word my before gestures, further separates the terms in a clear manner.

A statement that uses the phrase, movement OR gesture appears in one of Ayano Kataoka’s interview responses, in reference to my question about whether or not there are times when it is inappropriate to move while playing. She replies, “When the movement or gesture is high-flown, extreme, or exaggerated. When the movement is out from musical contexts, or is not related to any type of quality of the sound” (Kataoka 2011). Ayano indicates that the two terms
could be different. In *Movement for Actors*, Rumohr writes, “Great acting is comprised of movement or “gesture” at every moment, but you need not explicitly develop gestures for every moment unless you want to. Rumohr also appears to differentiate between the two terms, especially with his quotation marks around the term *gesture*.

David Schotzko, Doug Perkins, and Aiyun Huang make clear distinctions between movement and gesture in some of their later statements. David says,

> I want every movement I make to be reproduced in sound…I think most people I know (and I do too) make extraneous gestures that may be in character with the music but may be a bit over the top...leg kicks, sort of (shows big arm strokes). Those kinds of things, I’ve tried to weed out in general. I try not to do stylized gestures in slow music, for instance (brings arms from one side of body to the other very slowly like a rainbow). (Schotzko 2012)

David connects the term *movement* with sound, and *gesture* with extraneous (or something that is not necessary to the performance). Along with most other participants, David implies that extraneous gestures are negative and should be eliminated. Doug differentiates between the two terms when he says, “Bob (Van Sice) was the one who really emphasized the direct connection between the movement of each part of the body as a way to empower or impede a musical gesture” (Schotzko 2011). He indicates that there is a connection between the movement and gesture, which means they cannot be one in the same.

Aiyun clearly distinguishes between the two when responding to my question about whether or not she changes her movements when changing pieces in a program,

> I prefer to call these “movements” physical gestures since they are tied in with the way one remembers certain passages. They are not (should not be) made up on the spots in order to impress the audience. They are necessary physical gestures in order to execute information and are an integral part of interpretation. (Huang, 2011)

Aiyun continues to discuss practiced movements in other interview responses. When asked if she thinks about her movements while playing, she replies,
Not in performance, but I think about movements a lot during practice. I try to incorporate movements into my physical gesture in order to create consistency and avoid surprising gestures in concerts! In performance, I am not sure if I can tell you exactly what I think since it seems to change often and I can’t recall those thoughts afterward. However, ideally I prefer to practice my movements and have them be a part of my interpretation and be able to recall them successfully. Movements need to be consistent and consistently practiced because they affect accuracy. Sometimes, players memorize according to physical gestures, so the triggering of musical passages rely on specific and precise physical gestures. (Huang, 2011)

Aiyun clearly and consistently separates the terms movement and gesture. In Elaine King’s chapter of Music and Gesture, she discusses Clarke and Davidson’s 1998 study on pianists’ gestures. In the study, Clarke and Davidson use the terms gesture and physicality. King writes that the two terms help determine “which movements are gestures (i.e. actions that express something) and which ones are not”. She later mentions a study where the “pianists’ physical actions were referred to more broadly as movements, rather than as gestures, so the former was seen to encompass the latter” (145). King also separates the two terms, but also indicates that movement is the broader term.

Another scholar who implies that movement is the broader term is Laban,

Each phase of movement, every small transference of weight, every single gesture of any part of the body reveals some feature of our inner life. Each movement originates from an inner excitement of the nerves, caused either by an immediate sense impression, or by a complicated chain of formerly experienced sense impressions stored in the memory. This excitement results in the voluntary or involuntary inner effort or impulse to move. (19)

Laban is discussing the cause of physical body actions, and labeling those actions as movements, implying that movement is the broader or blanket term with gesture being something more specific (i.e. a communicative action). Laban, Dibble, and many other scholars and performers define movement as the broader term with gesture being something more specific that
communicates something. My use of the term movement is similar to Laban’s, referring to any physical act on stage. Each movement has the potential to be more specifically titled a gesture.

**Gesture**

Gesture is often the term that is used to describe an expressive movement or motion. Some scholars, such as Dibble and Alberts, use this term for particular areas of the body (i.e. head). Similar to McClaren’s statement, Anthony Gritten and Elaine King insert a disclaimer at the beginning of *Music and Gesture*, “…not all terms are used with precisely the same meanings, and this results in some interesting tensions across the volume, reaching as deep as assumptions about what constitutes the central, most floating term of them all—gesture” (xx). They continue discussing the issue of gesture having multiple meanings in the following quotation,

> The study of human gesture is a vast, complex field of research that raises many issues about performance and perception. Different communities use, understand and explore gestures in different contexts, and so definitions of musical gesture vary across these communities, as do methodologies, both theoretical and practical, for understanding how musical gestures originate, what they mean and how they work...Across cultural, aesthetic and terminological differences, however, most scholarship on musical gesture makes a grounding assumption, broadly semiotic in nature: a gesture is a movement or change in state that becomes marked as significant by an agent. This is to say that for movement or sound to be(come) gesture, it must be taken intentionally by an interpreter, who may or may not be involved in the actual sound production of a performance, in such a manner as to donate it with the trappings of human significance. (xx)

This explanation of movement and gesture is valid as it considers multiple perspectives, cultures, and contexts. Gesture is often referred to as a type of movement that communicates something or is significant in some way, which is how I use the term in this thesis. In agreement, Arnie Cox references Robert Hatten in *Music and Gesture*, “Gesture is movement interpretable as a sign, whether intentional or not, and as such it communicates information about the gesturer (or character, or persona the gesturer is impersonating or embodying)” (51). The word
communication frequently appears in gesture definitions. Hatten continues discussing gesture as he also mentions movement and motion, making distinctions between the three terms,

*Gesture draws on basic sensorimotor mappings that foster a natural categorization of dynamic events throughout perception, even prior to conceptualization. Movements - usually involving several parts of the sensorimotor system - cohere or become integrated into synthetic movements that can support gestural interpretation when their elements are coordinated into a singular functional motor action or perception - or typically a combination of both (1-2)...To summarize the argument thus far: gesture involves the coordination of intermodal syntheses, based upon the functional coherence of movements as events, and their emergent meanings. (3)*

Hatten describes gesture as a specific type of movement, and implies that movement is the more general term.

As mentioned in the movement section of this chapter, Alberts, Aiyun Huang, David Schotzko, and Doug Perkins clearly differentiate between movement and gesture. In reply to an interview question about Doug’s movement training with his percussion teachers, he says, “Jim (Culley) tried to bring it (movement) up in basic technical ways and Bob (Van Sice) was the one who really emphasized the direct connection between movement of each part of the body as a way to empower or impede a musical gesture” (Perkins 2011). This statement indicates that Doug thinks of the two terms as different, with movement as the broader term and gesture as something that can evolve from a movement, similar to Hatten.

In “The Mind of the Listener: Acoustics, Perception, and the Musical Experience: Do longer gestures make longer notes?” Michael Schutz makes a statement that indirectly defines or provides an example of the term *gesture* when he asks, “Does the length of the physical gesture (e.g. the up-down motion used to strike a note) have any effect on its duration?” (2009:22). Motion is used as a physical action with a focus on the technical side, whereas gesture is the result of the up-down motion. What if the motion does not communicate anything? Is it still a gesture?
Who determines if the movement expresses or communicates something: the mover or the observer? If the mover intends to express a particular emotion but something different is observed, this creates another element of confusion. Many researchers conducting movement-based studies determine gestures by the observers, rather than watching videos with the performer to ask every detail about his/her movements. However, this way risks acquiring incorrect data according to the intention of the movement. On the other hand, this is the case with most arts because the creator or interpreter is not always able to be asked or able to discuss this issue. It is my hope, for the performer’s sake, that most gestures are observed as they were intended, in which case this discussion becomes a non-issue.

Scholars and performers are constantly looking for clear ways to describe the words motion, movement, and gesture. As long as they define their terms, they are generally understood. Without standardized terminology for these complex terms, inconsistencies will remain. These inconsistencies tell something about the author and cause the reader to think deeply about his/her usage. It is important to review the different usages among authors in order to understand the broader topic. McClaren, Gritten, and King were aware of this terminological issue based on their opening disclaimer about using similar movement terms interchangeably. Although the disclaimer could be considered an easy way of getting around definitions, some readers may prefer it because it removes the discrepancies and indicates that the terms are similar enough to use as synonyms.

### 2.2 Gesture Typologies

Some scholars define gestures by dividing them into different categories. For example, in Music and Gesture, David Lidov writes that gestures have “three functions: the emotive (like sad or happy), the phatic (as in emphasis, asserting personal power and relationships) and diagrammatic….One gesture may express more than one function” (25). There are many different ways to split gestures into types. In Music and Gesture, Vines and Wanderley write,

> From the study of roughly one hour of (Glenn) Gould’s performances, Delalande proposed a typology of gestures with three levels, from the purely functional to the purely symbolic: 1) Effective gestures, those that actually produce the sound; 2) Accompanist gestures, expressive body movements; and 3) Figurative gestures,
gestures perceived by a listener, but without a direct correspondence to a movement of the performer. (165)

Delalande chooses to split gesture into “effective”, “accompanist”, and “figurative”. Although other authors discuss the same types of gestures, they often use different terms. For example, his “effective” term is similar to my “sound-producing”, and his “accompanist” term is similar to my “ancillary”. In this section of the thesis, I discuss divisions or types of motions, movements and gestures displayed by various scholars and performers. The terms I focus on are: sound-producing, ancillary, expressive, emotional, choreographed, necessary, and efficient.

Sound Producing

A sound-producing movement is a physical act that leads to the production of sound (i.e. lifting one’s arm and bringing it back down to strike the marimba). A sound-producing gesture is an expressive or communicative physical act that leads to the production of sound. For example, jumping in the air and raising one’s arms high in order to strike the marimba, creating a large statement and sound. Figure 3 displays two different performances of Keiko Abe’s The Wave at the same moment in the piece, preparing for the last two notes played at fortissimo.

Figure 3.

In Music and Gesture, Arnie Cox writes, “the sounds are evidence of the motor actions that produce them, and our comprehension of the sounds involves comprehension of the relevant
motor actions” (47-8). Cox is saying that the physical movement determines the sound heard on the instrument, and the listener understands that sound partly due to the visual aspect. Most scholars and performers agree with Cox, recognizing that movement leads to, determines, and informs the sound.

Vines and Wanderley discuss expressive and sound-producing movements in *Music and Gesture*. Rather than separating the two terms, they describe them as going hand in hand. The following quotation parallels with Aiyun Huang’s previous statement about movements not being random.

> Performers’ expressive movements are neither random nor just produced as a visual effect, but are an integral part of the communication process established during the performance, and represent another level of information complementary to that present in the sound produced through the instrument. (xxiv)

It is unclear in this statement whether Vines and Wanderley are saying that the expressive (ancillary) movements are necessary for sound production or whether they merely add to the sound. They later discover that ancillary gestures are not necessary (at least in clarinet playing) for sound production. However, the information that ancillary gestures add to the performance may not be possible to obtain with only sound-producing movements. With the observer being the one who determines whether the movement is sound-producing or ancillary, it is difficult to decipher this information without being the one performing. This is how lines get easily blurred.

McClaren writes, “Every sound produced is brought to realization by means of movement. Movements, then, are the means of musical expression on any musical instrument. A performer’s physical movements are an irrevocable part of the total musical experience” (11). Alexandra Pierce writes, “there is a correlation between physical presentation of musicians and the resultant production of sound” (11). Pierce, however, does not go as far to say that “movements are an irrevocable part of the total musical experience”, as McClaren does. Pierce simply acknowledges that they are related. The question that everyone is trying to answer is just how related they are and whether the ancillary gestures are necessary in performance.

As Schutz discusses in *Seeing Music*, the gesture may not actually change the sound of the note, but the observer could “hear” the note differently based on the type of gesture. “Therefore,
although gestures cannot change the sound of a marimba note, they are capable of changing the way that note sounds within the mind of the listener” (6). Schutz is mainly referring to the gesture seen after a marimbist strikes the bar (follow-through or release).

Schutz discusses reasons why percussion is a particularly unique instrument in this field of study,

*Percussion instruments exhibit a clear causal relationship between gesture and sound... The connection between individual notes and the movements used to produce these notes is far less obvious for wind instruments, where changing pitches requires complex interactions between embouchure and fingerings that are far from transparent to audiences... Given that the piano produces sound by striking a string with a hammer, it is in an acoustic sense a percussive instrument – and therefore suffers from some of the same limitations as the marimba (e.g. fixed tuning, limited control over note decay relative to wind and string instruments, etc.) Playing it also requires a great deal of movement, movements that are clearly causally connected to the sounds produced. (100-101)*

Schutz also writes that “not all gestures are created equal; those that do not change our perception of sound are not musically useful and could ultimately be distracting” (26). Many participants in my study mention this as well. If movements do not have a direct connection to the sound, then they are considered extraneous or exaggerated. These types of gestures have a very negative connotation among the participants I interviewed, with everyone wanting to avoid them, as they do not relate to sound.

In reference to sound-producing and exaggerated gestures, Ayano Kataoka says that she tries to avoid exaggerated gestures; instead she focuses on gestures that come naturally,

*I wouldn’t try to exaggerate for myself because that’s unnatural. The movement, I say, should come naturally, and it depends on how you create, how you produce the sound, how you do it (puts arms up high in big stroke gestures). I don’t like doing this. I try not to do it too much. (Kataoka 2011)*
Ayano is implying that the movement depends on the way one produces the sound. If the performer uses a low stick height to produce a soft sound then the movement will be subtle and small.

Although getting at the same idea, David Schotzko says that the sound depends on the movement. Is it possible that both movement and sound depend on each other and could not exist without the other? Without movement there would be no sound because the movement needs to occur before the sound is produced. Without sound there could be movement but in the case of musicians, movement would precede and follow the sound. David frequently discusses the relationship between sound and movement in our interview,

*I think every sound you make is a direct reproduction of how one moved to make the sound...I first noticed it watching jazz drummers when I was playing a lot of drum set, in that you can have an idea of the difference in the way Elvin Jones sounds versus the way Roy Haynes sounds, versus, if you’re watching a video of them and turn the sound off, you’ll have a pretty good idea, especially as percussionists we automatically know how things work...There’s a video of Steve Schick playing Zyklus that’s amazing. He does it from memory and he does all this stuff (waves arms up). Zyklus can be this very dry piece that makes no sense, but it’s Steve’s gestures that make it sound, that give it sense, and give it sound...it makes sense aurally because of the gestures he’s making...I’ve seen many a violin master classes where people say things like, “You have to touch the instrument the way you want it to sound”, which is essentially the same thing; it’s just mostly imperceptible from the stage because we can’t see the tiny gestures. It’s the same sort of idea, and percussion is very obvious because it’s big.*

(Schotzko 2012)

David discusses some interesting points within the topic of sound-producing movements. He explains how movements directly affect the way the music sounds. He also mentions that without the audio information, one could still “hear” the music based on how the movements look.
When asking David if there are situations where he finds it inappropriate to move while playing, he writes,

_This is a little vague, because all sound making requires movement. My rule of thumb: every gesture I make should be reproduced in sound. I try to weed out all motions that do not produce (or enable) sound or sound making... I try not to make a gesture that isn’t reproduced in sound or that doesn’t represent the piece...Every musician sounds like they move; on any instrument the character of the movement shapes the character of the sound. So, for me, movement is directly connected to interpretation. However, (again – for me) there is a vast difference from movements required to play and shape sound, to extraneous ‘interpretive’ movements and gestures._ (Schotzko 2012)

After a discussion of sound-producing movements, David makes a distinction between sound-producing and “extraneous ‘interpretive’ movements and gesture” (Schotzko 2012). David also talks about moving to match the music, as does Tom Burritt when he discusses his 6 M’s (Making a Musical Motion to Match the Musical Moment). This is highly individualized because each performer interprets the same piece differently. Matching movement to music occurs through interpreting the music in one’s own way.

When asked about her former teachers, Ginny Armstrong says, “Mr. (Phil) Faini used movement to help focus on sound production as well as communication to the audience. He felt that every performance should be about entertaining the audience, but allowed us to do that in our own style” (Armstrong 2011). The fact that Mr. Faini allowed his students to “entertain” or move in their own style shows that he recognized that each performer interprets the music differently which will show through their gestures. Ginny implies that movement has multiple functions of assisting with sound production and technical aspects of playing, as well as communicating or expressing something to the audience. In this thesis, I refer to the second function as _gesture._

Pius clearly states his views on any type of movement besides sound-producing,

_I don’t see any point of making any motion that doesn’t have to do with the sound; that’s just the way I was taught. If I see some annoying movements [while teaching], I just tap them on their shoulder...”Stop that” (laughs), but you know I_
guess that’s kind of old school maybe, but if it doesn’t have anything to do with the sound, than “Stop that”. (Cheung 2011)

Pius is very much on the same page as David, as well as many other performers. However, when watching Pius and other performers, not all movements (i.e. torso leans or sways) appear to be necessary for the particular sound being produced. This is where lines get blurry again. Is a swaying gesture that I perceive to be ancillary actually a sound-producing gesture, which determines how the marimba sounds? Let us take a closer look at the way that the term ancillary is defined.

Ancillary

I define ancillary gestures to be those that do not directly produce sound. Ancillary gestures have the potential to be related or unrelated to the sound. The unrelated ancillary gestures could be more specifically referred to as extraneous or exaggerated gestures. The related gestures are sound-producing if they produce sound and ancillary if they do not directly produce sound. Schutz also separates sound-producing and ancillary gestures (2009:101). He recognizes that ancillary gestures are a part of the music but not mandatory to simply produce sound on one’s instrument.

Vines and Wanderley define ancillary along with other terms used in their study. Similar to Schutz, they write, “The terms ancillary or accompanist gestures have been used to designate those gestures that are part of performance, but not produced in order to generate sound” (167). They later reference studies by Delalande and Davidson which "show that musicians not only perform skilled movements that are directly related to sound production, but also movements that do not seem to have an obvious link to the generation of sound” (167). Vines and Wanderley uncover data that shows ancillary movements to be unnecessary in order to produce sound. They write,

Our goal is to analyze musicians’ performance gestures that do not seem to have a well-defined purpose related to sound production, inter-performer, or symbolic performer-audience communication (167-8)…All that this data shows is that it is possible to play most pieces while trying to suppress ancillary movements. In
other words, ancillary movements are not strictly necessary for sound production.

(174)

Their study, however, focuses on the clarinet. The results may not apply to other instruments that require different postures, positions, or movements. Percussion, for example, allows for much freedom of movement with different types of constraints than the clarinet. Vines and Wanderley conclude with,

In the context of clarinet performance, our previous work has shown that ancillary gestures are common in performances, although not essential...In the case of the same expert clarinet player performing one piece multiple times, a strong correlation between the player’s movements at the same points in the score was found across performances, suggesting that ancillary gestures by clarinet players are not randomly produced, or just a visual effect, but that these gestures play an integral role in the performance process and mental representation of the music. Quantitative data from performances of different players showed that ancillary gestures were idiosyncratic for each player, though movement features related to structural characteristics of the piece (e.g. tempo) and to material/physiological aspects tended to be largely invariant across performances of different musicians...We posit that the musical sound and the musician’s gestures (ancillary and effective) proceed from the same performance ‘expressive units’. (185-6)

This statement refers to gestures that expressively relate to sound but do not directly produce sound. Vines and Wanderley discover that ancillary gestures are not essential when it comes to producing a sound, but contribute greatly to making the particular sound that the performer wants to produce and share with the listener. Although many participants in my study mentioned these types of movements and gestures, they did not choose the word ancillary. Rather, they chose words such as emotional or expressive. There is much overlap in the meanings of these terms.
**Expressive**

An expressive movement would be one that conveys meaning or feeling. Whether the observer understands the meaning or feeling that the musician intends to convey, the musician may be expressive regardless. It is difficult to determine the audience’s observations without interviewing them after the performance. My definition leans toward the performer’s perspective, as my study does not focus on the audience component, other than my own observations.

In *The Expressive Body: Physical Characterization for the Actor*, Alberts writes, “Expressive movement is often referred to as language - ‘the language of the body’ or ‘the universal language’” (1). He continues by explaining his use of the term *expressive*:

> Every movement performed on stage is inherently expressive. Every activity performed on stage holds expressive potential that an actor can tap. Any physical activity, in other words, can be consciously made to hold expressive significance. The simple act of breathing can become a sigh of relief, a yawn of boredom, or an expression of profound sadness. It is the MANNER in which the activity is performed that imparts meaning to it within a particular context, and it is the manner in which an activity is performed that can be controlled by the actor. (5)

Alberts states that any physical movement could be considered an expressive gesture, depending on the way in which it is executed or performed. He also emphasizes the importance of the context in which the physical act is performed. The expressiveness or “meaning of a movement is determined by what is done, how it is done, and in what context it is done” (9). If one marimbist adds a leg kick at the end of a piece, whereas the second marimbist does not, the first player would appear to be adding an “expressive” movement. However, some expressive movements are less obvious which means the second marimbist may have been expressing something as well in a more subtle way. From the audience’s point of view, are they both using expressive gestures? What if the first marimbit did not intend to be expressive whereas the second marimbist did?
Alberts insists that an expressive movement does not exist without the intention of it being expressive by the performer. He writes,

*Expression implies intent. A movement cannot be unintentionally expressive for it would simply be nonexpressive. It would lack expressive content because it lacked expressive intent. Even a movement that is meant to be unexpressive—a blank stare or a “poker face”—is nevertheless expressive in its own right. If it’s done on purpose, it’s expressive, if it’s not done on purpose, then it’s not expressive. This is to differentiate true artistry from the “happy accident”. (10)*

My first question for Alberts is how he defines intent. What if the movement is somewhat subconscious but the overall mood or idea is intended? It appears that he would consider that kind of movement to be inexpressive. My second question for Alberts is in regard to the audience. If the audience views it as expressive, couldn’t it be? He would likely answer this question with “no” because he believes that expressiveness all depends on the performer’s intent.

Broughton and Stevens investigated “expressive bodily movement; that is, movements of the body other than those of the face” (339-40). They used Laban Movement Analysis as part of their study with the aim of “interpreting musicians’ perceived bodily expression in conjunction with temporally ordered information such as the music score” (340). They reference other studies such as Davidson’s (1993) which proved that audience members were able to determine expressive intentions of performers through: 1) only audio; 2) only visual; and 3) both audio and visual, with “only visual” proving to be the most informative (340). It is surprising that “both audio and visual” would not be the most informative category.

In 2009, Broughton and Stevens conducted an experiment with a professional male and female marimbist. Both marimbists played standard repertoire, first with deadpan or minimal expression, and second with projected or performance expression (346). The excerpts were viewed both with sound and without sound, resulting in the “with sound” category being more informative (349).

In reference back to my example of one marimbist ending with a leg kick, and the second ending without a leg kick, Davidson’s study provides answers to which scenario is viewed as expressive. “While generally speaking, increased quantities of bodily movement lead to increased overall
assessments of expressiveness (Davidson, 1993, 1994), moments of little movement or stillness can also be perceived as expressively charged” (Davidson 2002:341). So then, the first marimbist’s gesture might be viewed as expressive whereas the second might be viewed as “expressively charged” by Davidson. Whereas Davidson used the term expressive for gestures that are not sound-producing, Vines and Wanderley generally use the term ancillary, only using expressive on occasion.

In Vines and Wanderley’s discussion of expressive movements, they write, “Musical performance is a revealing human behavior for the analysis of expressive communication. Not only are traditional musical parameters conveyed - melody, rhythm, articulation - but also information about emotions experienced by the performer and intended by the composer” (165). As suggested, there is much more to music than what is written on the page. The performer may choose to reveal part of him/herself through the music. The composer and/or performer may also choose to reveal part of the composer through the music. The term expressive often gets linked to the terms emotion and reveal. In the Mastery of Movement, Laban writes, “The urge for values is revealed by the artist on the stage by means of expressive movement, that is movement of the body and movement of the mind” (98). Laban believes that expressive movements reveal or communicate something.

In Theatre of Movement and Gesture, Lecoq separates gestures into three groups: action, expression, and demonstration. He writes, “Gestures of expression involve the emotions and the person’s basic states” (9). He later writes, “In expression, the preparatory movement is so potent that it defines the action that follows it” (86). This made me wonder about the resistance stroke that Fred Hinger employed in his timpani playing. Although starting the mallet low, the sound is full and the follow-through can look various different ways. The preparatory movement does not look as though it would produce a full sound, but it is certainly capable of doing so.

In Schutz’s Seeing Music, he references a 2007 study by Dahl and Friberg, which connects expressive intentions or emotions to specific types of movements.

To investigate the role of body movements in communicating emotional intentions, Dahl and Friberg (2007) video-recorded a professional percussionist playing a marimba solo with four different expressive intentions: happiness,
sadness, anger, and fear...Dahl and Friberg also analyzed how movement patterns vary as a function of expressive intentions, finding that performers used slow and smooth movements to convey sadness, large and fast movements for happiness, and jerky movements for anger. (97)

The results of the study are as to be expected. The issue with the study is that Dahl and Friberg based this information off of one participant. There should have been other percussionists in the study to make comparisons. What if one percussionist conveys sadness through large and fast movements and another percussionist conveys happiness through slow and smooth movements? This would already contradict the results of the study. The other issue is that different audience members will observe different aspects of the movements and expressive intentions.

In Music Senses Body, Anne Tarvainen writes, “As bodily beings we share the meanings that rise from our listening experiences. At the same time, we are all unique bodily beings, and thus understand each other’s expressions in our own personal way” (427). An example of this comes to mind with one very emotional moment in a marimba solo I performed. An audience member interpreted the moment as “rocking out” when it was actually more of a “stab to the heart”. A still image of this moment is displayed in Chapter 3.1 (Figure 4).

Emotional

My use of the term emotional is similar to expressive in that they both are types of gestures that communicate something and originate from the emotions of the performer. An emotional gesture would be one that goes beyond producing the sound. The terms emotional and expressive could be used interchangeably in discourse about movements and gestures.

Mithen differentiates between emotion and mood in Singing Neanderthals, “A mood is slightly different from an emotion; the former is a prolonged feeling that lasts over minutes, hours or even days, while the latter may be a very short-lived feeling” (90). This does not line up with how some musicians use these terms. It is common to talk about the “mood” of a piece and the “emotions” the players are trying to evoke. Also, participants mentioned that their particular mood before or during a performance could affect their playing. Would that be mood or emotion? If it were before the performance, Mithen would describe it as “mood”, and if it
momentarily came during the performance, he would describe it as an “emotion”. I agree with Mithen on these definitions.

In *Music and Gesture*, Arnie Cox brings up an interesting point,

> Where does this feeling of pulse originate? If we say that it is a property of the music (of the acoustic stimuli), which we feel when listening to music, then we are led back to where we started; we feel pulse because pulse is there to be felt. The problem here is one shared by other concepts related to embodied meaning, including ‘gesture’: How is it that music makes us feel anything at all? (I am not referring necessarily to emotional feelings but to the more visceral sensations related directly to movement). (45)

Cox separates the two meanings of the word *feeling*. She wonders how music makes us physically feel something in order to physical move. How does the sound cause people to move? She makes sure to clarify that she does not mean emotional feelings. In some cases, however, I believe that those emotional feelings could be the cause of physical feelings and movement. The next statement almost suggests the opposite idea of musical aspects (i.e. tempo and dynamics) determining emotions.

> Patrik Juslin, a psychologist at Uppsala University, gives a detailed statistical analyses investigating how variations in tempo, loudness, rhythm, pitch and so forth induce different types of emotions...Juslin found a very strong correlation between the emotion intended by the musicians and that which the listeners believed was being expressed. Happiness, sadness and anger were all relatively easy to identify; fear was a little more difficult but was successfully recognized in the great majority of ‘fearful’ performances. The listeners who were trained musicians had no greater success than those without expert musical knowledge, but women had slightly greater success than men. Juslin had expected this gender difference-research, as mentioned above, has shown that women are better at recognizing emotional states from facial expressions and body language. (93)
The order of events may occur differently for various performers and pieces. Emotions can dictate the sound of the music, and the sound of the music can also dictate emotions.

The studies that are called “movement studies” may actually involve much more than just what the observer is seeing. The studies also involve what the performer is feeling and thinking which is more difficult to visually notice. After conducting their study on clarinetists’ ancillary gestures, Vines and Wanderley write, “Perhaps there would be greater similarity between emotion conveyed visually and emotion conveyed aurally for instruments that facilitate freedom of body movement and facial expression such as the piano, the guitar, and the voice” (182). Percussion is another instrument that facilitates freedom of the body. Percussionists must consider their physical movements more than some other instrumentalists because of how noticeable the movements are in performance. All eyes are not on the performer’s fingers, but are instead on the arms, legs, and entire body due to the nature of percussion instruments and how they are played. The type of percussion instrument and style of repertoire vastly determines the performer’s movements.

When asked in our interview about different styles of movements for different repertoire, Ginny Armstrong says,

> If you’re an actor and you’re playing different roles, you’re not going to be the same person unless somebody gives you similar roles all the time. If you’re thinking this kind of music, then you want people to think that it’s that type of music. Otherwise they don’t really understand, and especially Japanese music is more dramatic, so you can think, “well maybe I should get into that, that emotional state even to play the piece”…it’s out of my comfort level most of the time, so I actually have to think about it. (Armstrong 2011)

Ginny discusses the idea of getting into the mood or the character of the piece. This may not always be easy for the performer, as many of us are not actors, but it may be necessary in order to properly convey the style of repertoire being performed.

Marion North writes, “It becomes apparent through observation that mental and emotional attitudes play at least as great a part as physical structure in determining which type of movement
will predominate in a person” (6). North is explaining that movement does not just occur based on one’s body type, but also occurs based on thoughts and emotions of the performer.

**Choreographed**

My definition for the term *choreographed* is any movement that the performer preplanned. Percussion has a great need for preplanned or choreographed movements, although the entire piece would obviously not be planned second by second. In regard to choreographed movements, Doug Perkins says that when playing the marimba solo, *Velocities* he bases most of his choreography around his hips. He continues to discuss choreography related to other areas of his body,

> In the Abe excerpt, I think about leading my choreography with my feet (moves feet to the side) when I leap down and things like that. If it’s going well, I’ve thought about my feet and I’m aware if they can help me get to the next place”.

*(Perkins 2011)*

After he used the word *choreography*, I prodded him more to find out if he plans or figures out his choreography in the practice room before a performance. He says, “God willing [nods ‘yes’ and laughs], it is being comfortable with my motions and my choreography that allows me to go to that type of place” [of avoiding the extra step of thinking about movement on stage]. (Perkins 2011)

Joël Cormier also mentions choreography when responding to my interview question about whether he makes errors due to differences in body positions or movements in a performance. He says, “Absolutely, but I like that. I don’t like being too choreographed or too planned. I kind of like those surprises” (Cormier 2012). Aiyun Huang aims for the opposite type of performance, based on her response about whether or not she thinks about her movements. She writes, “I think about movements a lot during practice. I try to incorporate movements into my physical gestures in order to create consistency and avoid surprising gestures in concerts!” (Huang 2011). However, this is not to say that Aiyun choreographs all of her movements. Rather, she thinks about them in the practice room in order to enhance her performance. Each
performer is different and thinks differently about movement. Some may not think about movement at all whereas others may preplan or choreograph many of their movements.

**Necessary**

I define necessary movements to be the same as sound-producing movements: those movements that are crucial to sound production. In response to my interview question about whether she changes movements when changing pieces, Aiyun Huang writes,

> I prefer to call these “movements” physical gestures since they are tied in with the way one remembers certain passages. They are not (should not) be made up on the spot, in order to impress the audience. They are necessary physical gestures in order execute information and are an integral part of interpretation. (Huang 2011)

In this case, necessary gestures are those that inform the piece and are connected with interpretation. She later discusses the fact that it would not be necessary to move very much when playing fast, difficult passages in a small range of the instrument, and may even hinder one’s playing.

When asking Pius whether he incorporates any additional movements beyond sound-producing, he says,

> No, I try to avoid that at all costs. I don’t do any of (wiggles arms above head in flowy motion), at least I don’t think I do any of the wiggle thing, and then you play the note and then (wiggles arms above head again)...unless it’s the drama/music kind of pieces where of course movement is part of it, but I don’t see any point of making any motion that doesn’t have to do with the sound, that’s just the way I was taught...you know we don’t do anything that’s not necessary. (Cheung 2011)

This implies that, in movement and gesture discussions, necessary and sound-producing are defined the same, as synonyms. This aligns with my previous definition of the term *necessary.*
Efficient movements are those that do not waste energy or time. If the multiple percussionist preplans his/her choreography, then the movements will be efficient and smooth. Most participants in the study strive for efficient playing. This goes back to the idea of extraneous gestures being negative. Efficient gestures would be the opposite, and therefore, positive.

In reference to David Lang’s marimba solo, *String of Pearls*, David Schotzko mentions the narrow intervals, fast playing, and small range, to name a few of the challenges. He says,

...there’s just no time to do anything round. Everything has to be very low and super efficient. I mean you’re holding thirds and fifths the whole time. You almost never go wider than that, so it made me think a lot about (just to get to the notes in tempo) exactly where I need to stand and exactly where my arms need to be. It’s the first piece that has made me do that in a long time. (Schotzko 2012)

Doug Perkins, who also took lessons with Bob Van Sice, mentions efficient movements as well in his interview. He talks about how Bob (Van Sice) made his “motions smaller and more efficient”. He later brings the subject up again when he says, “I think it used to feel good to use lots of my body to do things and he (Van Sice) taught me that if I’ve got all these big things, then maybe efficiency’s good” (Perkins 2011).

When asked if her movements change within the same piece from performance to performance, Naoko Tsujita writes, “Similar, but looking to be more efficient” (Tsujita 2012). Tom Burritt says, “We’ve got to minimize as many movements as possible for efficiency” (Burritt 2011). Both Naoko and Tom strive for efficient playing.

Joël Cormier also mentions efficiency in regard to fast playing. He says, “If you’re with a group and you’re playing like this speed (really fast) and you’re all over the place and can’t do anything else; you just have to go that speed as efficiently as possible and that’s it” (Cormier 2012). “Efficiently as possible” is interesting because it reminds us that one player’s efficient playing may not be as efficient as the next person’s efficient playing.

Marion North writes,
Ten people doing the same job efficiently will all make individual variations on the basic pattern required for success (a minimum requirement is necessary). Those people who do not complete the job satisfactorily either will not have the minimum requirement or will have too many intruding elements to allow for efficiency. (27)

“Not completing the job satisfactorily” would be equivalent to not playing the piece well by missing notes. If a performer is playing as efficiently as possible and still not playing satisfactorily, he/she may not be an expert yet.

Laban also advocates for efficiency although recognizes that it may not always be the way that one should move in a performance.

...movements which are harmonious in themselves do not always guarantee efficiency in work. Some work calls for disharmonious movements producing tensions in the body which do not entirely agree with its best and easiest function. These movements, so far as they cannot be avoided, cause the special exertion which must always be carefully equilibrated by a following relaxation in order to maintain efficiency in everyday life. (177-8).

Laban is taking into account those movements that may not be the most efficient but might be necessary or pertinent to the piece or the character. Performers sometimes make sacrifices for their performance. As long as these “inefficient movements” are not harmful to the body or distracting, I believe they are fine to incorporate into one’s performance with good reason.

In Guitar Zero, Gary Marcus mentions a particularly memorable guitar teacher, who advocated for efficient movements,

Jamie is one of the few teachers who seems interested in that sort of question, the relationship between muscle and brain, and how to use one’s body efficiently... Jamie’s emphasis was almost entirely on the mechanics of proper motor control—on getting one’s muscles to do what one wants, as efficiently as possible, with as little tension as possible (reminiscent, for those who know it, of the Alexander
The terms efficient and smooth are often linked, as well are the terms efficient and economy of motion. Most scholars and performers think of efficient movements as a positive aspect of playing. Marcus goes as far to say that “one hallmark of expert musicians is remarkable efficiency (171). This statement is valid because without efficiency, the performer will likely not appear as an expert. Leigh Howard Stevens, an expert and renowned marimbist stressed the importance of efficiency of movement (McClaren 1985:25).

Donald Stauffer explores muscle efficiency in relation to stick heights, tempo, and dynamics. McClaren writes, “The study (Stauffer’s) provides logical reasons for various physiological processes involved in playing percussion instruments that will ultimately help one to improve movement efficiency…(63). Stauffer and McClaren are also advocating for efficient movements.

In Movement for Actors, Teresa Lee discusses Alexander Technique in relation to efficiency,

Alexander Technique is not considered a movement discipline unto itself. It is, rather, an approach to learning, or more accurately “unlearning,” applied to any activity. The Alexander Technique is a simple, practical method for consciously engaging in our moment-to-moment lives with improved ease and efficiency. (66)

Alexander Technique challenges people to deconstruct the way they are moving and going about their everyday life. The result can lead to more efficient movements and a logical life style, and can also improve one’s craft, whether that is engineering, medicine, music, or drama.

Vsevolod Meyerhold had a large influence on movement in acting. He discovered a system in 1922 called “biomechanics” which was based on ‘efficient and effortless stage movement’ (4). Potter continues to discuss Meyerhold’s ideas,

Meyerhold concluded that every theatrical moment should be executed to its fullest. Through a careful study of the muscular coordination and system of levers already inherent in the human form, the actor can make the job of moving,
gesturing, and speaking more effective by initially making it more efficient. He can then choose how to manipulate his movement, because he has already trained his body to execute what his mind and emotions ask of it. (6)

Another key word affiliated with efficient is the word effective. This demonstrates, again, a positive connotation to the word efficient. To summarize this term, all scholars and performers discussed efficient movements as an important goal in performance, a goal that could lead to smooth, effective, economized, and even expert playing.

All of the terms discussed in this section are “types” of gestures, although it is not always useful to categorize given that some gestures fit into multiple categories and some do not fit into any of the categories listed. The advantage to discussing typologies of movement and gesture is that we can more accurately and precisely decipher what each person is referring to in conversation about a topic that is not easy to converse about.

2.3 Associated Terms

There are many other terms associated with the topic of motion, movement and gesture in performance. The last three discussed in this chapter are economy of motion, repetition, and repeatability. These three terms continue to arise in interviews and much of the literature that I discuss in the thesis.

Economy of Motion

“Economy of Motion” is an efficient and concise use of motion. This definition aligns with most others I encountered in my research and interviews. In Movement for Actors, Marianne Kubik discusses Meyerhold’s “biomechanics”,

If one looks at how the musculoskeletal system of the human body is designed to provide a useful system of levers and counterbalance, one will see that the essence behind each movement as Meyerhold devised it is inherent to the body. He did not invent it; rather, he accurately surmised it through both careful observation of the body in space and through his own natural instinct for movement. His logical and scientific mind made connections between the human
body and the physical world around him, which is why he was readily influenced by American industrialist Frederick Winslow Taylor’s study of “motion economy” on a factory production line. Meyerhold connected Taylor’s model of the skilled factory worker to the Soviet concept of a “new worker” of the theater, believing that one must observe in both the absence of superfluous or unproductive movements and correct positioning of the body’s center of gravity, rhythm, and stability. Taylor’s “work cycle” became Meyerhold’s “acting cycle,” involving a studied relationship between movement and rest that would enable the worker, and Meyerhold’s actor, to produce the most efficient performance with the least degree of effort. (6)

Due to Taylor’s study of “motion economy”, Meyerhold was able to adapt the ideas to acting, which is also employed in other performing arts, as well as other fields.

In Lecoq’s *Theatre of Movement and Gesture*, he writes about how economy of movement is obtained,

> We are responding to a language that is universal. It is the same for all physical gestures that tend towards that economy of movement needed for the completion of any given action. The body learns by adapting itself to the effort required by a given gesture. When repeated, any gesture becomes selective, eliminating whatever is superfluous. These dynamics of gesture and movement appear as universal because they are organically inscribed within our bodies and belong to the laws of gravity. Gradually, they are shaped, transposed, deviated, hidden or opposed by education or by tactical or diplomatic considerations which are peculiar to each individual, to each country or to each historical period. (8)

Symphony orchestras present a prime example of what Lecoq is discussing because the behavior seen on stage is based on tradition and training, not necessarily what is natural to the performer. Marimba soloists may also base some of their movements on the movements they have seen from other soloists, causing “norms” and traditions.

In responses to an interview question about who her teachers were and their thoughts on movements, Naoko Tsujita writes that one of her teachers, “Takashi Fukuda, taught me to be
smoother with the economy of motion” (Tsujita 2012). Beverley Johnston and Ginny Armstrong also discuss economy of motion in some of their interview responses. Ginny writes,

\[I was \text{ definitely taught about movement for economy and accuracy... the economy of movement was a big deal when I was in school. We didn’t even have a five octave marimba and they were still really serious about, don’t move around so much...In part of my undergrad, Dave Satterfield focused a good bit on motion (and economy of motion) for accuracy. (Armstrong 2011)}\]

Ginny also refers to percussionist, Kevin Bobo as having the “ultimate economy of motion” (Armstrong 2011), referring to his smooth and effortless playing style.

In response to whether or not she thinks about movements while playing, Beverley says, “I think mostly about economy of motion so that I can play the correct notes BUT I also think that the gestures that I make help with interpretation of the music” (Johnston 2012). She references economy of motion (or energy) four other times in her interview responses:

1) \textit{In the Abe excerpt, since it is new to me, my main concern is playing the correct notes, and economy of motion helps with that.}

2) \textit{I really try not to consciously decide how I’m going to move. It just happens and it is in combination with the complexity of playing the marimba to be accurate (economy of motion in this case) and also the style.}

3) \textit{My first real percussion teacher was Russ Hartenberger so it was kind of that NEXUS school where, you know, this resistance stroke and all that, and economy of motion.}

4) \textit{It’s kind of like a Pilates thing too where your abdomen and your back are maintaining the direction of your spine so you can get the best energy and most economy of energy while you’re playing. (Johnston 2012)}

Economy of motion is certainly not a new phenomenon. Multiple teachers in various areas of the world are teaching their students this approach, leading to economized movements, more efficient playing, and less wasted energy and effort. Beverley referenced “economy of energy”,


which is a similar idea to Laban’s reference to “economy of effort”, “The high economy of effort which characterizes skill is common to both the laborer and the virtuoso. The greater the economy of effort the less apparent is the strain. High economy of effort makes movement look almost effortless” (5-6). This statement reminds me of Russell Hartenberger’s playing as it always looks smooth and effortless. Economy of effort, energy, and motion are all the same idea, one that involves the performer to move and exert effort and energy in the most efficient or economized manner.

**Repetition**

My use of the term *repetition* is a physical act or motion that is seen or done more than once. In *Time, Love, and Memory*, Jonathan Weiner discusses repetition in reference to studies conducted with fruit flies: “They (flies) seemed to be learning much the way human beings learn: by repetition. It is adaptive for living things’ memories to require repetition (138). It is unclear whether Weiner is referring to physical repetition, mental repetition, or both.

In their study on clarinetists’ gestures, Vines and Wanderley concluded that gestures are part of a learned interpretation of the piece (185-6). They came to this conclusion based on gesture repetition across multiple takes of the same piece. The data from my study aligns with their results as most gestures looked identical across multiple repetitions of the same excerpt. In Clarke and Davidsons’ 1998 study on pianists’ gestures, they found “that the breath-beat ratios were highly consistent across repeat performances of the same piece for each individual (with the exception of Peter’s performances of the Poulenc)” (149). This presents another instance of gesture repetition, assuming breath is a gesture. In Chapter 4, I discuss individual trends that stood out due to repetition among the three excerpts involved in my study. For example, in Doug Perkins’s three excerpts, his feet often stood out whereas in Ginny Armstrong’s three excerpts, her arms stood out more often than other body areas.

Laban writes, “Modern industrial workers’ actions are very often confined to one or other of the fundamental rhythms determined by the ancient Greeks. They do not just express moods, but create habits of moods if frequently repeated” (124). Kubik discusses a similar topic in *Movement for Actors*, although leans more toward the topic of muscle memory. She writes,
When an action is broken down into its separate parts, the muscles are learning a new way of moving and require repetition and exaggeration to establish muscle memory. Only when this muscle memory is achieved can the movement be reassembled or synthesized. (6)

Although this statement is geared toward actors, musicians could benefit from it as well. If musicians practice slowly with the movements they plan to use in performance, they will train their body to use gesture repetition. Kubik later writes,

\[
\text{The sensations are what the body remembers and can repeat; feelings are less reliable and harder to recreate. You can try to command yourself to experience a feeling on the stage, but the result will probably be inartistic and marginally successful at best. (19)}
\]

Kubik could be correct in some scenarios, although I have experienced a number of cases where I was able to recreate feelings on stage. Sometimes, because my muscles are trained in a particular way, the original feeling that evoked that movement the first time comes back repeatedly. Many participants discussed movements as being natural or organic. They know when to move based on instinct not analysis. For me, it seems to be a combination of instinct and emotion that guide me, and then movements are developed which often lead to gesture repetition.

**Repeatability**

I define the word *repeatability* to be something that can be repeated. The term is often found in scientific studies where the scientist is testing to see whether his/her experiment can occur more than once. Vines and Wanderley ask three important questions in their study, which tested clarinetists’ gestures,

1) *The production of ancillary gestures*

2) *The repeatability of ancillary gestures*

3) *The production of similar movement patterns by different performers: whether there exist any movement patterns common to different performers and whether*
there exists a consistent relation between movements of different performers and the musical score. (168-9)

The use of the term repeatability in this study is referring to those gestures that occurred more than once, those that could be repeated.

In Music and Gesture, King references Davidson’s study on musicians’ body movements. Davidson concluded that “physical gestures were flexible in that they could vary from performance to performance, yet there was consistency in the timing of gestures at specific points in a piece (such as at a phrase boundary or climax)” (In King 2006:144; Orig. Davidson 2002: 146-7). This is an important comment because it recognizes that there is variation from one performance to the next, but also similarities among the gestures.

In this chapter I described the following terms: motion, movement, gesture, sound-producing, ancillary, expressive, emotional, choreographed, necessary, efficient, economy of motion, repetition, and repeatability. In the first section, “Motion, Movement, and Gesture”, I focused on the use of these three terms among performers and scholars along with the differences and similarities between them. In the second section, “Questioning Terminology”, I covered the terms sound-producing, ancillary, expressive, emotional, choreographed, necessary, and efficient, as they can all be considered “types of gestures”. I defined each term and explained how each is used in related literature. In the third section, “Associate Terms”, I discussed economy of motion, repetition, and repeatability. Each term continues to arise throughout the thesis, creating the need for definitions and clarity among scholars and performers. Although not all of the terms are always defined the same, it is important to discuss the differences in definitions and to delve into the meanings of each term.
Chapter 3
How/Why Performer’s Move

3 Introduction

The reason that performers move the way that they do depends on multiple factors that I will consider in three categories: A) factors related to the performer; B) factors related to the performer’s experience; and C) factors related to the performance. In the first section, I focus on factors related to the performer: body structure; sex; gender identity; cultural background; personality; mood; physical appearance; confidence level; and thought process. These factors could affect how the performer moves on a regular basis or at a given moment in performance. The factors I discuss in the first section are all directly related to the performer, either having to do with his/her body, mind, emotions, or cultural background.

3.1 Factors related to the performer

Body Structure

_We are bound by our skeleton and by our human physical mechanics to the laws of gravity. Whatever we do, we carry within us these inevitable factors like a physical memory; every one of our actions, our passions, our desires refers us back to them. Our gait is the personalized form of mechanical walking: it draws it into the world of sensibilities, of dynamics and of dramatic events in which space comes into play._ (Lecoq 2006:13)

As Lecoq agrees, performers’ body structure and learned bodily behaviors affect how they move while playing and contribute to the reasons for particular movements, especially in marimba performance. For example, a person with shorter legs may need to find more creative ways to move from one end of the marimba to the other than the few steps a person with longer legs may need to take. However, this does not mean the short-legged and long-legged marimbists always do what one might expect. It does mean that one’s body structure could make certain maneuvers on the marimba easier or more difficult.
Another example would be playing the highest and lowest note of the marimba at the same time. Someone with long arms would have an easier time than someone with short arms, causing the movements to look different in performance. Jane W. Davidson writes, “Just as knowledge and skill shape fluency, so an individual’s anatomy and the instruments played will have a critical role in further shaping the action processes involved in delivering a musical performance, and so will also shape the musical outcome” (211). On the other side of the argument, Marion North indicates in *Personality Assessment Through Movement*,

> It is not the physical build which determines the style; a heavily built, stocky person may be a high mover. However, there would often be a relationship between, for instance, tall slender build and a high mover. It becomes apparent through observation that mental and emotional attitudes play at least as great a part as physical structure in determining which type of movement will predominate in a person. (17)

The physiology of marimbists affects more than North might realize. Height, weight, size, shape, bone structure, feet size, hand and arm size, muscular build, posture, and even the length and density of one’s hair could affect the way one moves at the marimba. From personal experience, I can say that weight, muscular build, posture, and hair are factors that have consciously affected my playing. At a comfortable and healthy weight, I move with more ease. With gradual muscle building through practice, I can play without pain and without too much exertion. If my posture is erect as opposed to hunching my shoulders, I play with more confidence. If my hair is up as opposed to down and long, I do not need to think about where it is going or if it might get in my way, which eliminates one distraction. Each marimbist has his/her own physiological advantages and disadvantages. It is a matter of knowing what they are and working with them appropriately.

If marimbists have any injuries or impaired areas on their body, this will affect movements and gestures. For example, someone with a hurt leg would be less likely to overextend him/herself than the average marimbist in terms of lower body movement. Also, a person with carpal tunnel syndrome or tendonitis would likely look and play differently than the next marimbist. “The close interrelationship of bodily structure and the structure of movement in space is the
foundation of all aspects of Laban’s theory of movement in space and spatial harmonies,” writes Vera Maletic in *Body-Space-Expression* (73-5).

Sex

The Merriam-Webster Dictionary defines sex as “either of the two major forms of individuals that occur in many species and that are distinguished respectively as female or male especially on the basis of their reproductive organs and structures.” The biological make-up of the person is also a factor related to the performer, him/herself. Female marimbists have the added issue of breasts when it comes to moving the way that they do. A female with larger breasts may refrain from moving her upper body too much while a female with smaller breasts may not. Most males do not have this added issue, eliminating one distraction.

Males tend to have larger body structures than females (although certainly not always). This relates back to the section on body structure and the advantages/disadvantages of each detail of one’s body. In *Music and Gesture* Justin London writes, “Men are generally larger than women, especially in terms of height, inseam and foot size. And as a result, the stride length for men is indeed longer. But the stride rate is the same. Men walk faster than women not because their stride is faster, but because their strides are longer” (131). Even foot size plays a factor into movements and gestures. Although London’s information does not refer to all male and female sizes, it does give a useful statistic based on the majority of male and female sizes.

Gender Identity

The Merriam-Webster Dictionary defines gender identity as “the totality of physical and behavioral traits that are designated by a culture as masculine or feminine”. I take this definition a step further to say that gender identity is how one identifies oneself in terms of gender. A person born as a male may identify as a female based on how she feels and acts. In *Undoing Gender*, Judith Butler writes,

> But gender now also means gender identity, a particularly salient issue in the politics and theory of transgenderism and transsexuality. Transgender refers to those persons who cross-identify or who live as another gender, but who may or
may not have undergone hormonal treatments or sex reassignment operations. Among transsexuals and transgendered persons, there are those who identify as men (if female to male) or women (if male to female), and yet others who, with or without surgery, with or without hormones, identify as trans, as transmen or transwomen; each of these social practices carries distinct social burdens and promises. (6)

Butler clearly states her definition of gender identity and clarifies specific examples.

North states a claim about movement among the different genders/sexes when he says,

*The different sexes have clearly observable movement and rhythmical tendencies, just as much as physical differences. So much so, that a man is dubbed “effeminate” and a woman “masculine” if too many of their dominant movement characteristics, and behavior tendencies, belong more naturally to the other sex. This is not to say that one movement phrase is exclusively masculine and another feminine, for we all should have mastery and experience of both. But our different roles in life necessitate the more frequent use of one or the other, while achieving a balance through recovery in the other. Rhythm, change, and recover can only occur between opposites. (28)*

North is discussing stereotypical male and female movements and gestures based on societal norms. The stereotypes might be true for the majority or some of the population but certainly not for all. He brings up the issue of males appearing “effeminate” if more gestures align with female movement stereotypes and vice versa.

In our 2009 interview, University of Toronto Japanese Taiko instructor Kiyoshi Nagata, of Nagata Shachu Taiko Ensemble, made a clear distinction between feminine and masculine movements. He described feminine movements as “graceful and flowy”, and masculine movements as “more aggressive” (Nagata 2009). Although this distinction is not explicitly made in Western solo marimba performance, audience members may make the same or similar distinctions based on gender norms. In *Judith Butler’s Precarious Politics: Critical Encounters*, Terrell Carver and Samuel Chambers quote Butler as saying:
When the constructed status of gender is theorized as radically independent of sex, gender itself becomes a free-floating artifice, with the consequence that man and masculine might just as easily signify a female body as a male one, and woman and feminine a male body as easily as a female one. (210)

As Butler stresses, the outward appearance, behavior, and mannerisms of a person cannot indicate that person’s gender identity.

Cultural Background

This factor can refer to many different situations. My cultural background is that I was born and raised in Marion, Iowa, U.S.A. I lived in Iowa until graduate school and currently live in Toronto, Ontario, Canada. My ancestors were from Germany, England, and Sweden, although I do not know any relatives from those countries since the history dates back before my living family members. Although this is technically part of my cultural background, I do not consider it relevant to this discussion. My cultural background would be American. My musical training exclusively took place in the U.S. and Canada, with the exception of a few short trips to Japan and China where I briefly studied with Keiko Abe and Jiao Shanlin.

Many marimbists in North America have moved there from other countries. The country in which they were born and raised would be considered part of their cultural background, along with the country in which they currently live. For example, many of the participants in my research study were born in Asian countries and have since moved to the U.S. or Canada. Both their native country and current location would be considered part of their cultural background. Detailed information about the participants’ background can be found in Appendices 15b and 16. Also, if one parent was from a different country, that would also influence the child’s background. For example, if one’s mother is from Japan and father is from Nigeria and the family lives in Canada, then the child’s cultural background would include Japanese, Nigerian, and Canadian influences.

Lecoq discusses the implications of one’s cultural background in relation to movement:

*Each country displays its own particular way of moving in its gestures of action, its expressive and indicative gestures. Gestures are learned through the mimetic*
process from childhood onwards, perfected over generations, handed down from parents to children. These gestures become effectively signs of recognition, when personalized within a particular group, or cultural milieu, or community linked by interest or activity. (22)

In relation to my research, cultural background can influence the way marimbists move while performing, and also their thoughts on movement. For example, a fellow student at the University of Toronto, Alejandro Céspedes, moves and thinks differently than many North American percussionists/marimbists. Originally from Havana, Cuba, he feels the music and moves particular ways based on how he was raised.

When video recording and interviewing Alejandro in 2011 as part of a trial study, I discovered some interesting information related to movement and culture. He says, “In my culture, (which is a mix of African, Spanish and West Indies influence) everything involves movement, consciously or unconsciously.” He discusses how, in Cuba, it sometimes feels wrong not to move while playing music. He also mentions that people in Cuba are very aware of their movements, and think about everything they do in order to match the movement and music so that they are synchronized.

When Alejandro has played percussion in Canadian symphony orchestras, some other musicians have told him not to be so gestural, implying that his gestures might take away from the “classical” performance. Conversely, some audience members in North America have complimented him based on his gestures and visual means of interacting with the music. Alejandro believes that movement is related to the feelings he is trying to express, whether that is in a salsa band, a solo marimba performance, or a symphony orchestra.

Both Alejandro and I took Kwasi Dunyo’s West African Drumming and Dancing course at the University of Toronto. Kwasi often instructed the students to move their feet while playing bells, shakers, and other auxiliary African instruments. Alejandro did not have any difficulty with this, but many North American students who did not have experience with moving to the music, found it rather challenging. This is one situation where cultural background can be a large determining factor in how people move. In our 2009 interview, Kwasi Dunyo said, “Music
and movement are the same.” (Dunyo 2009). This idea of movement and music being one in the same continues to arise throughout movement literature.

In my research study, four participants are from Asian countries: Taiwan, China, and two from Japan. The other six participants are from North America. Although I will not focus primarily on cultural background in my study, it is one contributing factor to why marimbists move the way that they do. In Music and Gesture, Robert Hatten writes, “Musical gestures derive meaning from biological and cultural correlations as these are negotiated with both discrete (harmony and voice-leading; rhythm and metre) and analogue (articulation, dynamics, pacing) stylistic elements” (xxi). Most scholars agree that performers’ cultural backgrounds affect movements and gestures in music performance.

**Personality**

Personality is a large determining factor that may trump many physical traits. In Music and Gesture, Davidson writes, “personality factors, such as extroversion and high intrinsic motivation, contribute strongly towards the desire and ability to develop as a solo performer” (xxv). Whether the performer is tall/short, male/female, gay/straight, Asian/African, the personality of that performer might override stereotypes of expected movements in performance.

I do not know Keith Jarrett’s personality off stage, but he certainly has an animated personality while performing jazz piano on stage. After seeing Jarrett perform in 1997, Andrew Solomon writes, “He looked as though he were giving birth to a square baby” (192). In Music and Gesture, Peter Elsdon followed up with,

> The implication here is that this physical excess draws attention away from Jarrett’s playing and towards the unnecessary contortions of his body...Critics say that his body movement during performance is nothing more than superficial show-business posturing, an empty, if at times entertaining façade. (192)

Jarrett moves in a way that feels natural to him, regardless of what the critics say.

An overly theatrical person may use a lot of ancillary movements while a quiet, shy person may only use sound-producing movements. On the contrary, it could be the opposite on stage
considering everyday personalities are not always the same as stage personalities. For example, I may present myself as a quiet and reserved person but I do not hold back gestures that come to me while playing music. An outgoing person may choose to minimize his/her movements to look efficient and economized.

In *Music Senses Body*, Lina Navickaite-Martinelli writes, “One of the possible ways to analyze musical performance in semiotic terms is to pay attention to the relation of mind and body in performing music, and to acknowledge that a significant part of the performer’s identity stems precisely from his/her bodily signs” (412). Martinelli continues, “Having his or her immanent personal qualities, one is nevertheless significantly influenced by all the social and cultural background that is forming a social identity of an artist. Moreover, a person can accept some parts of the environmental norms and refuse, or resist, the others” (413). Personality is an important factor in movement research and should be studied in more detail in future research.

David Alberts, author of *The Expressive Body: Physical Characterization for the Actor*, makes a clear distinction between personality and character when he writes, “Personality is a person’s projected self-who she appears to be-not necessarily her true character. A person’s personality may reflect her character, of course, but the personality projected to others is more likely to be selectively ‘edited’ for a particular audience or circumstance. Character is innate, essential, fundamental. Personality is acting” (25). In this thesis, I define personality as being innate and character as acting (i.e. the character she portrays in this piece, or the character of the piece).

**Mood**

At times, mood can affect a performance even more than personality. If the marimbist is in a positive mood, the performance may be vastly different than if the marimbist is in a negative mood. While in a good mood, movements might be natural and pleasant to watch. While in an angry mood, movements could appear sharper and more aggressive. If the performer is in a sad or depressed mood, movements may be executed with less energy (unless the performer is able to disconnect his/her mood from the performance).

Hatten indicates, “Nevertheless, one typically finds intuitively satisfying motivations for what may have developed as conventional symbolic representations. For example, grief would most
naturally be expressed in terms of downwards and heavy gestures, and elation by means of
upwards and light gestures” (3). I agree with Hatten that movements are likely connected to
one’s mood.

If marimbists are feeling scared or nervous, they may have shaky hands, raised shoulders,
hunched posture, etc. Nicole Potter mentions many physical traits related to nerves in Movement
for Actors: “neck tension, increased heartbeat, sweaty palms, raising of the shoulders, lifting and
gripping in the chest, tensing in the lower back, tensing in the hands, arms, and legs, and lifting
of the chin and head in an effort to overcome the other tensions” (70). This also relates to stage
fright, which could be a factor in itself. I will, however, focus on nerves and include it in the
“mood” factor.

Physical Appearance

The type of clothing marimbists choose to wear can contribute to how they move. If a woman is
performing in a long dress that is not loose on the bottom, she may feel restricted to lunge or
make large steps from one end of the marimba to the other. If a man is wearing pants that are too
tight, he may feel restricted in terms of lower body movement. Dresses, skirts or pants that are
too long could trip the performer or cause an added distraction. Some women’s blouses have
bows, strings, or other types of decorations that may swing while she moves her torso. Men
must think about their ties swinging. Women also have to think about straps on their dresses to
make sure they will remain secure and not fall off their shoulder. Although subtle details,
clothing can impact the way performers move.

In regard to shoes, I recently tried wearing jazz dance shoes during recitals where I am playing
solo marimba repertoire. Any other shoes I tried were not allowing me to feel free with my foot
movements. Shoes with heels were especially impeding my natural movements or slowing me
down. The jazz shoes eliminate one more distraction during performance.

Clothing and shoes can also determine how performers feel about themselves. If their clothing
causes them to feel attractive, they might move with confidence and comfort. On the other hand,
if performers feel unattractive, they might be more reserved on stage with movements and
gestures. There is also the audience perspective of the performer’s physical appearance. In
Michael Schutz’ *Seeing Music* article, he says, “In addition to gestures and body language (over which performers retain some moment-to-moment control), incidental information such as physical attractiveness, clothing choice, and stage presence can significantly affect evaluations of performance quality” (93). It is unfortunate that physical appearance can affect the audience’s perception of the music, but not all that surprising when considering the high value that society places on appearance.

**Confidence Level**

This factor mainly refers to performers’ confidence level in their marimba playing. However, there are many sub-factors to acknowledge. A performer may have a high confidence level when it comes to marimba playing but a low confidence level when it comes to self-image. This could skew the overall presentation and perception of his/her confidence level. Potter says, “Insecurity with any part of the body can result in enough self-criticism to inhibit the creation of your own character prototype-killed forever because of a critical impulse arising from an agenda that is anything but creative” (20). Potter discusses the negative impact that physical insecurities can have on one’s performance.

Also, depending on the piece, performers may feel very confident with their overall playing as a marimbist, but less so on a particular piece. In my research study, it was helpful to see four different excerpts from each marimbist because it allowed me to observe their confidence levels among the various pieces. All of the marimbists were asked to play an excerpt of their choice, which was often their most confident performance. Movements varied among the different excerpts for multiple reasons including confidence level.

When I perform from memory, my confidence level raises because I know I will play more accurately while looking at the marimba. I also gain confidence from ingraining the piece in my mind and body. I feel differently when I play with music versus from memory on four-mallet marimba solos. I discuss this topic in greater detail in Chapter 4 to explore whether using music versus memorizing relates to movement and gesture.
Thought Process

In *Music and Gesture*, David Lidov writes, “‘Gesture’ seems to match best the level at which we grasp (comprehend) music most viscerally and intimately, and in this way it highlights a kind of musical knowing that is distinct from our more visual and quasi-objective conceptualizations” (57). I agree that the way in which performers think about the music they are playing can determine how they move on stage. For example, I often think about memorable moments that occurred in my lifetime while I’m performing. As I learn the piece, I match musical moments to memories, which can create physical and emotional responses.

In Eric Ewazen’s *Concerto for Marimba,* I created a summarized life story among the three movements. The first movement, *Andante-Allegro Vivace,* is fast and playful which depicts my childhood, as I think of positive moments throughout that period of my life. The second movement, *Andante Cantabile,* is slow and lyrical which depicts the moments surrounding my father’s passing. Certain moments in this movement cause me to almost cry and lose myself in the music with the vivid imagery I create in my mind. The third movement, *Allegro Con Fuoco,* is fast and fiery which depicts my move to Toronto and the start of a new and exciting life. Every person thinks differently while performing and all of those thoughts or lack of thoughts link to how one moves. Alberts says, “Everything a person does reveals something about that person, even if it is not supposed to reveal anything at all (3).” Figure 4 displays images from the second movement of Ewazen’s *Concerto for Marimba.* The image on the left was the moment that I realized my father was gone. The image on the right was partly my own reaction as well as seeing the reactions of my family members. The high mallet height is a preparatory stroke for a loud and fast descending line of all chords.
Many performers think of the musical phrases, the theory within the music, and possibly even the history behind the piece or composer. The differences in thought processes determine movements and overall interpretations of the piece. The “thought process” category can also be linked to “mood” in some ways due to the thoughts, feelings, or mood the performer is trying to evoke or portray. When I perform Tango en Skai (1985) by Roland Dyens, I imagine that I am dancing the tango. I try to portray a sensual mood to match the character of the piece.

Repertoire can vastly determine performers’ thought processes. For example, if marimbists are playing a mixed-meter piece with difficult counting and metric modulations, their thoughts will likely be on the complexity and comprehension of the piece. Again, this affects movements and gestures because performers have different mindsets causing their movements to look different.

In response to an interview question about changing movements for different pieces, Aiyun Huang says,

*I prefer to call these ‘movements’ physical gestures since they are tied in with the way one remembers certain passages. They are not (should not) be made up on the spot in order to impress the audience. They are necessary physical gestures in order to execute information and are an integral part of interpretation. (Huang 2012)*
Aiyun indicates that her gestures are learned in the beginning stages of working on a piece. This may be true for more performers than they realize. In *The Mastery of Movement*, Laban notes, “Even in everyday life it is possible to see in a person’s carriage as well as in his movements the way his thinking and feeling goes (109). Movements and gestures are part of one’s interpretation and thought process in music and in everyday life.

### 3.2 Factors related to the performer’s experience

In the second section, I discuss factors related to the performer’s experience. These factors are: training; professional level; life experiences; musical experiences; and experiences in movement-related activities, such as sports, martial arts, dance, drama, etc. Although it is often too difficult to link these factors directly to why performers move the way that they do, it is helpful to discuss the performers’ experiences and how those might relate to their movements.

**Training**

Performers’ training greatly affects how they move while playing. I will discuss this factor in further detail in Chapter 4, and will compare performers who studied with the same teacher. Whether students realize it or not, they are being influenced by how their teacher performs, visually and aurally. The students may not sound and look the same as their teachers, or as their peers; however, they have learned not only through verbal instruction but also through observation of their teachers’ movements. Many students of teachers who focus on sound-producing movements will likely do the same. Students of teachers who use more ancillary movements might be more likely to also use ancillary movements. It is not as if the students are copying their teachers, but they are learning through watching and listening.

In grades 6 through 12, I studied percussion privately with Mr. Tom Mackey who performs with Orchestra Iowa, Des Moines Symphony, Cedar Rapids Municipal Band, and has played drums in numerous ensembles. Tom was an excellent first teacher for me, as he worked much on technique and discipline. We did not discuss movement and gesture other than sound-producing movements in regard to technique.
During my Bachelor of Music degree, I primarily studied with Dr. Daniel Moore at University of Iowa. Dan is a soloist and uses more ancillary gestures than Tom. In lessons, Dan sometimes discussed movements and tried to get his students to “say something” with their solos. I was once working on a very basic and slightly boring multiple-percussion solo. He told me to imagine myself on stage, making the audience enjoy this piece more than anything they had ever heard. I added some ancillary gestures as well as energy and dynamics to achieve this. Much of what I learned from Dan was through observation at his performances. I sometimes catch myself doing a “Dan move” (which might consist of a little kick or head movement).

During my Master of Music degree, I studied with Ms. Beverley Johnston and Mr. John Rudolph at the University of Toronto. Beverley has a unique style of performing with ample flare and ancillary gestures. She discusses movement frequently in lessons and performance classes. She helps her students feel natural and comfortable but may also encourage them to do something outside of the box to achieve a new level of performance. Her animated personality shows on stage with her energetic and graceful performances. Through observation, I have also adapted many “Beverley moves” without realizing it.

John Rudolph is the principal percussionist in the Toronto Symphony Orchestra and a percussion instructor at the University of Toronto and the Royal Conservatory of Music. He is excellent at teaching technique, precision, and musicality. He is a very efficient player and focuses primarily on sound-producing gestures. He might add an ancillary gesture on occasion to enhance a musical phrase. John’s precision and accuracy most likely stems from his efficient movements.

In my Doctor of Musical Arts degree at the University of Toronto, I studied primarily with Dr. Russell Hartenberger. Russell has a long-standing professional history in the percussion world, as an original member of the percussion ensemble, NEXUS, and an original member of the Steve Reich Ensemble. Russell studied with Alan Abel and Fred D. Hinger, as well as many other non-Western instructors. In my lessons with Russell, we focused primarily on technique and musicality, and sometimes on physical movement. Russell does not generally use ancillary gestures, but rather uses sound-producing and economized movements. He makes performing look effortless which is something I have tried to adapt in my playing.
With my training from Tom, Dan, Beverley, John, and Russell, along with the many conductors, clinicians, and performers I have worked with along the way, I have adapted a unique and personalized style. My style would likely be different had I studied and worked with other people. Experiences and training contribute to making performers who they are. Beverley and John both studied with Russell, and although they do not look or sound the same as him, they have incorporated things they learned from him into their own playing as professionals today.

**Professional Level**

To compare a beginner marimbist to an advanced marimbist would be unfair. Even comparing students to professionals does not work because most students have not had enough experience figuring out who they are as an individual performer. Students may also lack the confidence that a professional would have. All of the participants in my research study are professionals, most of whom are teaching at the university level. Some would consider themselves marimbists while others would consider themselves percussionists who sometimes play the marimba. One of the challenges as a percussionist is to be well rounded. Some choose to focus on the marimba while others practice most or all of the percussion instruments. I would define a professional performer to be someone who plays at a mature level and someone who makes or could make a living out of performing and/or teaching.

The term *professional* is quite broad. Both Leigh Howard Stevens and I are professionals but he is on a much different level then I am because of his experience. In my research study, I asked all of the participants how many years they have been playing the marimba, as well as their age (See Appendices 15b and 16). This should give some insight into how much time they have devoted in their life to playing the marimba. All are professionals, but some may be more skilled or experienced than others when it comes to playing the marimba. Although I was not listening for wrong notes in the research study, the mistakes and lack of confidence in particular sections contribute to how the participant moves. Numerous times when participants made mistakes, they furrowed their brow, looked closer at the music, smiled, or even laughed. These gestures affect the flow and overall performance.
Life Experiences

This factor can refer to life-changing experiences or everyday experiences. As I previously mentioned, my interpretation of Ewazen’s *Concerto for Marimba*, was based on everyday childhood experiences, a traumatic experience of my father passing away, and a major life change of moving to a new place. All of these life experiences affected my interpretation of the piece, including my movements. I may not have danced around playfully in the first movement had I not been thinking about childhood events. I would not have raised my mallets so high and played so powerfully in the second movement, had I not been thinking about a painful moment after my father passed away (Figure 4). I might not have smiled and danced the way that I did in the third movement had I not been thinking about my new and exciting life change to a big city.

The life experiences I mentioned were memories that were consciously matched to the music. However, there are also many life experiences that unconsciously affect one’s playing. For example, traveling to a different part of the world and being affected by that culture. Performers may not even be aware of certain changes in their playing after their travels or other life experiences.

Musical Experiences

Many musicians involve themselves in multiple avenues within music. This could be other instruments, cultures, styles, etc. A marimbist who has jazz experience might play and move differently from a marimbist who comes from a classical background. A marimbist who started as a pianist might play differently from a marimbist without piano background. Many universities offer a variety of performance ensembles, such as jazz band, concert band, marching band, orchestra, choir, and world ensembles. Someone who plays in one of the ensembles receives different musical experiences than someone who plays in all of the ensembles.

Marching band experience might give performers the ability to march or keep time with their feet while playing an instrument. Jazz band might give performers a laid-back feel and approach to their classical repertoire. World ensembles could potentially help performers think differently about music in terms of counting, tuning, movement, etc. All of the different musical
experiences that performers have contribute to their ideas about music, their approach and interpretations, their sound, and/or their movements.

**Experiences in Movement-Related Activities**

This factor includes activities involving movement and excludes musical activities. Some movement-related activities include: sports, exercise, martial arts, yoga, dance and drama. If performers are accustomed to moving their body in certain manners during other parts of their life, they may relate this to their marimba playing, consciously or unconsciously. If one marimbist was involved in dance for fifteen years while another was involved in football for fifteen years, their bodies would have been trained differently. The dancer might have more grace in his/her movements than the football player. If the dancer’s graceful movements were unconscious, it would be an example of an indirect connection from a movement-related activity to musical performance.

In *Music and Gesture*, Elaine King mentions one of the participants, Ann, in a study on pianists’ breathing gestures.

> Ann received two years of tuition in Yoga around the age of 30 and attended a course in Alexander Technique, although she mentioned that this focused primarily on the mind, less physical practice. She felt that her training in Yoga made her aware of how to breathe ‘deeply’ and this influenced her generally as well as in her piano playing. (147)

This is an example of a direct connection from a movement-related activity to musical performance.

One of the participants in my research study, Tom Burritt, grew up as an athlete and participated in Tae Kwon Do. In response to my interview question regarding movement-related activities, he says,

> Tae Kwon Do had a dramatic effect on my tone production as I sought a way to play louder while at the same time protecting the brightness of my tone. It taught
me about where true power comes from (weight transfer). This had a dramatic effect mostly on my stroke. (Burritt 2011)

Tom consciously related his experience in Tae Kwon Do to his marimba playing. He used this non-related experience, which involves movement to further comprehend and improve his marimba playing. This affected the way he moves as he created a conscious change; another direct connection similar to Ann’s. Although this may not be a common occurrence for marimbists, changes may occur unconsciously based on past life experiences, musical experiences, or experiences in movement-related activities.

3.3 Factors related to the performance

The third section is about factors related to the performance. These factors are: the instrument; logistics; repertoire; musical genre; performance context; venue; and audience. I am excluding “fellow performers” because this thesis primarily focuses on solo four-mallet marimba performance. However, this would be an important avenue to explore in future research.

Instrument

This factor not only refers to the saxophone versus tuba or timpani versus marimba; it also refers to the brand and make of the instrument, such as a Yamaha marimba versus an Adams marimba. The feel and sound of different marimba brands is noticeably different to professional marimbists. When changing from one instrument to another, the different feel can negatively impact performers if they are not used to the other brand. Within the same brand of instrument, even the color of the bars, lighting on the instrument, width of the bars, range, height, or condition of the marimba can distract marimbists. If performers feel uncomfortable or distracted, it will likely show in their movements and gestures.

The instrument factor also refers to the broader instrument category. A saxophonist will move very differently from a tuba player. The ergonomics of each instrument requires particular positions. Saxophonists must either sit or stand with their arms extended forward and/or right to hold the saxophone and push down the keys. Tuba players generally sit with their arms wrapped
around the tuba to hold it into position while also pressing valves. Neither instrumentalist has as much bodily freedom as percussionists.

In *Music and Gesture*, Bradley Vines and Marcelo Wanderley discuss the topic of ergonomics of one’s instrument in relation to one’s gestures:

*Dancers, such as those used in the ballet study, move freely, whereas musicians have to maintain a consistent relationship with their instruments as they produce sound. The clarinet does allow for a variety of movements, which is one reason why we have chosen to focus on this instrument. However, the hand and arms are tightly constrained, as are facial expressions. Perhaps there would be greater similarity between emotion conveyed visually and emotion conveyed aurally for instruments that facilitate freedom of body movement and facial expression such as the piano, the guitar, and the voice.* (182)

I would like to add “percussion” to Vines and Wanderley’s list of instruments that facilitate freedom of body movement and facial expression. In *The Influence of Visual Attributes of Solo Marimbists on Perceived Qualitative Response of Listeners*, McClaren writes, “Percussionists move different parts of the body according to the instrument being played. Any of these visual attributes may affect a listener. Some visual cues may have more impact than others, depending on the performance genre and accepted practice. This study will focus on the perceived affect of the visual attributes of solo marimbists on the response of selected listeners” (23). Although McClaren’s study focuses much on the audience perspective, he also mentions the ergonomics of the instrument.

Any percussion instrument requires striking the instrument with hands, sticks, or mallets. Marimbas require the most sound-producing movements due to the size and length of the instrument. Marimbists’ entire bodies are free to move without any restrictions other than their hands holding onto mallets, and their body being close enough to strike the instrument. This freedom is what makes marimbists so visually stimulating.
Logistics

Logistics could include anything from audio playback to microphones to mallet types. This category includes objects that relate to the performance, excluding the instrument itself. For example, if a marimbist is playing *Fertility Rites* (1997) by Christos Hatzis (marimba and CD), and the audio playback is too soft for the performer to hear, he/she may play more softly and thus refrain from natural movements. If another marimbist is playing *The Connection* (2001) by James Rolfe (marimba and spoken text) with a malfunctioning lapel microphone, then he/she may also either play softer or be distracted by the issue. There are many other technological problems that could occur such as malfunctions with midi marimbas, live electronics, or amplification.

Other problems could also occur such as added percussion instruments being placed incorrectly (i.e. high hat placed too far away from the marimba to reach properly). Mallet trays could also be an issue if they are not in a convenient, easy-to-reach location. Mallets, themselves, could also create problems if they start unraveling, breaking, or getting tangled in a performance. Also, the type of mallets performers use in rehearsal should most likely be the mallets they use in performance to minimize distraction and discomfort.

Lastly, the angle or placement of the marimba on stage can affect performers’ experience. If they practiced facing forward and then had to perform facing stage left, this could throw off the performance and movements. Most performers try to be flexible and adapt to changes and unexpected situations. However, the human body cannot always physically adjust, even if it has mentally or emotionally adjusted. That is why all of these logistical factors relate to movements and gestures in performance.

Repertoire

Repertoire is a determining factor when it comes to movement and gesture. Whether the piece is slow and lyrical, or fast and playful determines one’s movements. London notes,
We cannot grasp the shape of a melody or rhythm if it is too fast or too slow, even though we can make some sense of it (noting its contour, aspects of its speed and motion, its timbre, and so forth). (126)

Very slow or very fast music could be difficult to groove to, although it may be easy and more natural to create ‘gestures’ for those styles of pieces. Very slow could be almost “slow motion-type” gestures. Very fast would depend on the style.

When responding to my interview question in regard to changing movements for different repertoire, Ginny Armstrong says that she does change her movements for different styles: “The Abe and the Bach are worlds apart stylistically. The more aggressive posture and large movements required to play the Abe excerpt would seem cartoonish when performing the Bach or even parts of the Stout” (Armstrong 2011). This leads to Tom Burritt’s “Six M’s”, a guide he describes in his interview to upper body movements:

*The Six M’s: Make a Musical Motion that Matches the Musical Moment. This too has become automatic in my playing the more I employ the idea and mostly is a natural extension of the musical thought in my head at that moment. I use this to indicate articulation mostly, trying to indicate differences between legato, staccato, marcato, and things like slurs. In the Bach for example, to show a longer note I might stay down. To show a slur I’ll stay down on the first note and lift as I play the second.* (Burritt 2011)

Ayano Kataoka responded to the same question by saying, “Yes, unconsciously I would change my movements because each piece has a different character. It is as if you are taking a different role as an actor/actress.” (Kataoka 2011). David Schotzko answered, “Yes, very much. Whether on marimba or percussion, one sounds like one moves. Again, movement decisions are part of the interpretation of the piece and different works call for different interpretations and require different motions.” (Schotzko 2012). Most other participants also agreed that they change their movements based on the repertoire and the needs of the piece.

Lidov captures this idea of music and movement being linked when he says:
What is at stake, to my mind, is the claim that musical meaning is generated by our embodied experience of it - that our embodied experience is not only necessary for experiencing meaning that is somehow inherent in the music itself, but that meaning arises in our conceptualizations of embodied musical experience and that abstract meaning is the product of embodied reasoning. (45-6)

I don’t think every musician embodies music in the same (visible) way. It might look like one marimbist embodies music more than the next marimbist because the first one visibly moves more, but another marimbist may understand the meaning of the music, play the music beautifully even though he/she seems to embody the music less visibly. It is true, however, that audiences’ perception of the marimbist’s embodiment is determined by what the audience sees.

In Movement for Actors, Potter writes,

You must know (even if you can’t articulate the knowledge in all of its complexity) that every action you create onstage exists for a purpose-to do something real. Then, and only then, might the public begin to have a need for your work, because they will receive from it something delectable and rare and electrifying, and available through no other life experience than theater. (255)

Many scholars and performers brought up this idea of matching motions to music and only if the motions are necessary and communicate or mean something.

Musical Genre

This factor is similar to “repertoire” although it refers more specifically to the style or genre of the piece, as opposed to the piece itself. For example, if one marimbist is playing jazz and another is playing Bach, side-by-side, their movements would probably look quite different. If one marimbist is playing a traditional African piece while another is playing a contemporary Japanese solo, their movements would look different. Ideally, movements match the style or genre of the piece. This is where doing background research as a performer could enhance the performance. If the marimbist does not know anything about Guatemalan marimba music and tries to perform it without doing any research, the character and movements could be drastically
different than in Guatemala. Martinelli mentions a similar topic when he discusses behavioral codes:

_Evidently, when one is playing a Bach prelude or a Beethoven sonata, one is behaving accordingly to the constraints of the appropriate behavioral codes (although even here some deviations are possible). Thus, as it has been demonstrated, the variables that determine bodily movements of a performer are of very different types: from the difficulty of a piece or the performer’s hands to the cultural codes. (419-20)_

Martinelli also brings up the factor of cultural and behavioral codes, in relation to repertoire or musical genre. There are expected ways to sound and look when performing particular genres. Must the performer submit to those expectations? Certainly not, but they may be criticized by some audience members.

**Performance Context**

This factor could refer to multiple aspects such as program order, events leading up to the performance, unexpected happenings during the performance (i.e. sudden illness), or location. The program order needs to be carefully planned and performers need to account for energy level, mood, and set changes. If performers do not plan properly, they could be too physically exhausted to play through a concerto or physically demanding piece on the program by the time it comes around. Also, if the program order is such that a comical piece follows a tragic piece, the performer may not be able to emotionally change gears fast enough. Set changes are also important because they could slow down the momentum of the performance. Also, if performers are helping move instruments, they could get too physically tired to perform.

All of the events leading up to the performance are also important. A colleague of mine did not allow for enough time before her recital to get everything done that needed to be done. She arrived at the recital venue very close to the time her recital was to begin and was not mentally prepared to play. She struggled through most of the recital, never quite gaining focus. This affected the overall performance as well as her gestures, particularly each time she made a mistake or lacked confidence. Performance days can be rather hectic, especially for a
percussionist when considering setting up and moving instruments around. All of these events relate to the performer’s mood and the overall performance.

Unexpected happenings will occur at any performance. It is how the performers deal with them that can make the difference. For example, I once got a bloody nose in an important orchestra rehearsal. The day was already a bad one and this made it worse. On top of it, I could not find the mallets I needed for rehearsal. I was late and holding a Kleenex to my nose. I did not perform well, mainly due to my foul mood, and partially due to the fact that I had one hand tied up from holding the Kleenex. The problem might not always be as drastic, but even small changes can affect the mood and gestures of the performer.

Laban writes, “There are two fundamental causes that obstruct an easy mastery of movement: physical and mental inhibitions…the causes of failure to perform certain combinations are, therefore, of a mental as well as of a physical kind” (120). A physical inhibition could be the inability of achieving a difficult passage. A mental inhibition might be the fear of attempting that difficult passage, even though the skill to physically achieve it is there.

The location of the performance can also make a difference. If a marimbist flies to Taiwan to perform the same day or next day, he/she must account for cultural changes and adapting to a new environment. The food and water in a foreign country can also affect the performer’s experience and physical health. If a performer does not feel well, he/she might refrain from moving very much at all.

Alberts writes, “Context is the physical, emotional, and intellectual environment in which a movement is performed. It should be readily apparent that the context contributes greatly to the expressive effect of any physical behavior. The meaning of a movement is determined by what is done, how it is done, and in what context it is done (9). The performance context largely impacts the performance.

**Venue**

The type of venue makes a difference in sound and gestures. If performers are in a hall that seats 1,000 people, they may enhance their gestures to be seen. If performers are in a room that seats
ten people, they may keep their gestures more subtle and intimate. The sound in the hall can also
determine the performer’s reaction and comfort level while performing.

Audience

Similar to the venue, the audience can also make a difference in sound and gestures. If
marimbists are performing for a large audience, their gestures would likely look different than
for a small audience. Also, the type of audience makes a difference. I get more nervous when
playing for fellow percussionists. I can imagine that playing at Percussive Arts Society
International Convention (PASIC) would be quite intimidating. Nerves can affect gestures in a
positive or negative manner. Sometime nerves make me play more confidently, almost as if I’m
fooling myself to overcome the nerves. However, nerves can also cause performers to shake,
which would negatively impact their playing. If the audience is receptive, the performer will
likely feel and move comfortably. If the audience is not receptive, the performer will either
ignore them or let it negatively impact their performance.

Conclusion

It is difficult to determine which factors are most pertinent to the reasons that performers move
the way they do, most likely because these factors fluctuate in importance depending on the
person and situation. Laban writes,

So movement evidently reveals many different things. It is the result of the
striving after an object deemed valuable, or of a state of mind. Its shapes and
rhythms show the moving person’s attitude in a particular situation. It can
characterize momentary mood and reaction as well as constant features of
personality. Movement may be influenced by the environment of the mover. (2)

Many participants in my study mentioned that their attitude, mood, personality and/or
environment determined their movements. From the audience’s perspective, the performer’s
movements reveal these factors. From the performers’ perspective, these factors, as well as
others mentioned in this section, determine their movements.
4 Introduction

In order to research physical gestures of professional marimbists, I conducted a study with ten marimbists - five men and five women between the ages of 26-54 - between November 2011 and February 2012. The study took place in Indianapolis and Toronto. All participants in the study are professionals and eight have doctoral degrees in music. Nine participants teach or have taught at the university level. All are currently living in North America, although four participants are originally from Asian countries: Naoko Tsujita and Ayano Kataoka from Japan, Aiyun Huang from Taiwan, and Pius Cheung from China. Tom Burritt, Ginny Armstrong, Doug Perkins, David Schotzko, Joël Cormier, and Beverley Johnston are all from the United States or Canada. The participants are referred to by their first name throughout the thesis in order to differentiate them from scholars and also to quickly determine their sex due to particular comparisons where sex/gender is relevant.

4.1 Explanation of Study: Physical Gesture Analysis of Ten Professional Marimbists

All of the participants prepared a two-minute excerpt of their choice, as well as three standard excerpts from Gordon Stout’s *Mexican Dance No. 2* (beginning to *Dolce*), J.S. Bach’s *Chaconne in D minor* (49 measures from the end, to the end), and Keiko Abe’s *Variations on Japanese Children’s Songs* (last two pages). These three excerpts can be viewed in Appendices 18-20. All excerpts were approximately two minutes, and the participants were asked to play each excerpt twice. Participants were also asked interview questions via e-mail before the study, and follow-up questions about their responses in the live meeting.

I used four video devices and one audio device in the room to record each participant, placing two video devices at the participant’s right side and two in front to replicate the audience’s
perspective. When necessary, I placed a fifth video device at a diagonal angle if the music stand blocked the participant from the front angle. I sat near the front video cameras to watch and take notes. My technical aid, Jeff Higgins, assisted with the video and audio devices between takes. There were no other people present in the room.

Participants were allowed to play with their music or from memory. If they wanted to redo an excerpt, they were permitted to do so, although most did not. The participants were informed that the research study was about physical movement, but were not given any further information. My notes from the live performance and video viewings included any type of movement or gesture that stood out. The gestures observed may have been sound-producing and/or ancillary. All of the notes can be viewed in Appendix 0a.

I developed my own movement analysis system, as opposed to using a pre-existing system such as Laban Movement Analysis System, in order to produce the most accurate analysis for my particular study in marimba performance. My analysis system consisted of seven body areas: face, head, arms, torso, body, lower, sniff/breath. Each observed gesture fit into one of these categories and was tallied to show how often the participants were observed in each body area. To clarify the categories: “face” includes any facial expression; “head” includes the head and neck; “arms” include shoulders, elbows, upper arm, forearms, hands, and mallets; “torso” includes any part of the upper body above the waist that excludes arms or from the neck up; “body” includes bigger motions that could not be categorized into one area; “lower” includes anything below the waist including feet; and “sniff/breath” includes any breathing gesture that was usually audible and appeared as an ancillary gesture.

In this study, I focus on ancillary gestures, which could also be considered gestures that are unique to the individual performer. The study illuminates how different each marimbist plays, depending on multiple factors such as body structure, sex, gender identity, cultural background, training, personality type, musical style, mood, experience in movement-related activities, and other factors previously mentioned.

This chapter includes my analysis results: 1) areas of the body that were observed most in each participant; 2) gesture repetition in multiple takes of the same excerpt; 3) a comparison of each participant to the others; and 4) results, patterns, and trends that arose in the study. Individual
tempo is taken into account along with other varying factors such as whether the participant was playing from memory or with music, the physical size of the participant, etc. Specific gesture comparisons will be displayed such as ending poses, mallet/arm placement after rolls, stretched versus abrupt chord releases, and maneuvers from one end of the instrument to the other. I also discuss the two most similar players based on interpretation, tempo, and gestures.

Due to the small sample size, this study will not lead to conclusions about all marimbists. It will, however, provide an important contribution to physical gesture research in music performance by presenting patterns and trends from a comparative study of ten professional marimbists. I will later present individual trends as well as participant-comparison trends based on observations made from comparisons of take one and take two of each participant with him/herself, as well as comparisons of take one of each participant with each of the other participants.

My research study provides a way to visualize and better understand the effects of physical gesture on the interpretive scope of music performance. By studying an instrument such as the marimba, the visual aspects of performance will likely be larger and more frequent than with an instrument such as the flute or trumpet. This is due to the large size of the marimba and the need each performer has to move around in order to produce a sound.

Methodology: Video Recordings and Interviews

I began preparing for my research study by conducting mock studies with volunteer marimbists from Toronto who were willing to play any repertoire in front of a video camera. I asked them to play four 2-minute excerpts of any repertoire that they had prepared. I conducted these sessions in a similar manner to the way that I planned to conduct my research study. After two takes of each excerpt, I asked the participants interview questions about themselves and about movement in performance. From these trial sessions, I gained insight on what to ask, what not to ask, and how to ask my interview questions. I took suggestions from the volunteer marimbists and revised my questions as necessary.

I practiced taking notes while trying to watch the live performance at the same time. I found the best place in the room to sit, the clearest way to position my music stand so that I could see the performer while taking notes on the stand at the same time. I also figured out the most logical
ways to position my video cameras in order to obtain the angles I wanted to observe, with two video cameras recording the front view and two recording the side or profile view. I measured the distance from the marimba to the wall behind it, from the marimba to the video cameras, and from the floor to the top of the video cameras in order to keep consistent in future sessions. I recorded the measurements and information from these practice sessions on a diagram for the actual study.

Although I knew I did not want to use the Laban Movement Analysis System for my study, I did not yet know what system I wanted to use. The Laban Movement Analysis System is aimed more towards dancers and would not have been specific to my goals in the study. Instead, I drew ideas from reading about other studies such as Vines and Wanderley’s study on clarinetists’ gestures and multiple others that analyze ancillary gestures. Through the mock sessions, I created a logical note-taking system for my study. I began each session with blank pieces of paper for each participant with only their name and repertoire title written on each page. From there, I wrote any words or drew any pictures that helped describe what I was seeing. Afterward, I categorized these observations into seven body areas: face, head, arms, torso, body, lower, and sniff/breath. I chose these body areas in order to divide the body for discussion purposes. I pondered dividing “lower” body into more subdivisions such as feet, legs, and hips; however, I decided to combine them and specify as needed. The “face”, “head”, “torso”, and “sniff/breath” categories do not need an explanation. The “arms” category also includes hands, wrists, and mallets since they are all connected to the same movement. The “body” category refers to larger movements that involved the entire body as opposed to one part of the body.

While analyzing participants’ movements, I did not limit myself to any particular descriptive vocabulary. If a gesture was repeated multiple times then I recorded the information (i.e. multiple shoulder raises or kicks). Later, I tallied the information to determine the number of times that I observed the participants move each body area (Appendices 0b-0d). I compared each participant with him/herself, and also with each of the other participants. I analyzed patterns based on which excerpt the participants were playing and took into account the style of music. I separated my data by excerpt and also by participant to form my “Individual” and “Comparison” results (Appendices 1a-14b).
Vines and Wanderley took a different methodological approach when studying clarinetists’ ancillary gestures. In *Music and Gesture* they write,

> We have collected quantitative measurements of several clarinetists playing pieces from the clarinet repertoire...Movement data were acquired with digital video cameras and a high-accuracy movement tracker (Optotrak 3020 infrared system). Acquisition sessions took place at the NICI, Nijmegen, at the Free University, Amsterdam and at the Motor Control Laboratory, McGill University. Eight to ten active infrared markers were placed on the performer and clarinet. Performers stood about 3.5 metres for each marker’s position in space (horizontal, vertical and sagittal coordinates) at 100 Hz. (168)

The approach that Vines and Wanderley took to their study involved more technology and allowed them to focus on a few particular aspects. For example, they observed vertical movements of a marker that was positioned on the clarinet bell. This helped them determine how common it is to move the clarinet while playing, and also assisted in analyzing basic patterns of movement (168).

Vines and Wanderley also mention Davidson’s 1993 study “on the perception of visual cues from expressive movements of four violin players as well as a pianist”. Davidson used point-light displays in order to show that visual information related to the musicians’ movements “conveyed the intended expressive performance manner (standard, exaggerated or deadpan) more clearly than the combined video/sound or sound alone presentation conditions” (166). Her results revealed that performers’ gestures are very informative in relation to his/her expressive intentions. Davidson, Vines, and Wanderley all used technology in order to gain results. My study did not include this component, and instead, was based on my own observations. In order to gain the type of data necessary for my study - which included tallied numbers of body areas as well as a comparative analysis among participants - I would not have been able to implement a pre-existing analysis system tailored to a different type of study.

I conducted the first part of my study on November 11, 2011, at the Percussive Arts Society International Convention in Indianapolis, Indiana. I met with six participants (three male, three female) in a conference room for 45 minutes each. The room did not pick up sound from other
areas of the convention center. The backdrop behind the participants was simply a blank wall. I provided a five-octave Musser Marimba and gave the participants the option to raise/lower the marimba or to use a different marimba if they preferred. One participant borrowed a Yamaha and one borrowed an Adams from the convention booths in the exhibit hall.

I allowed the participants to warm-up on the marimba and become accustomed to the room for about five minutes before beginning the observation. When they were ready, my assistant started all of the video cameras/audio devices and said the participant’s name, name of the excerpt, and take number into the video camera while showing the information on an iPad which displayed a movie slate/clapperboard. The order of excerpts was Stout, Bach, Abe, and then the participant’s excerpt of choice, with two takes of each excerpt. Afterward, two chairs were placed in front of the marimba for a follow-up interview on camera, which allowed me the chance to ask any further questions I had after reading their initial responses via e-mail (Appendix 15). After the interview, the recording devices were turned off and the participants had a chance to receive refreshments and sign consent forms about participating in the study and whether they wanted their video recordings to be public or private. Instead of embedding video and audio material in this thesis, I decided to use still images to highlight key moments.

My assistant and I had either 15 or 75 minutes to reset the room, coordinate logistics of marimbas, and transfer information from video/audio devices to external hard drives to provide room for the next participant’s recordings. We scheduled the participants on the hour with two people back to back, and then a one-hour break, hence the 15 or 75 minute breaks. We did not allow the session to exceed 45 minutes in order to be consistent and to stay on schedule.

The second part of the study took place on February 5, 2012, at the University of Toronto in Toronto, Ontario. I met with four participants (two male, two female) in a practice room to complete the overall study of ten total participants. The room did not pick up sound from other areas of the music building and the backdrop behind the participants was simply a blank wall. I hung a plain sheet to cover a few distracting objects. All participants at the University of Toronto used a five-octave Marimba One instrument, and adjusted the height accordingly. The procedure for the second part of the study was the same as the first. After completion of both parts, my technical assistant organized all of the data on a laptop with two external hard drives to back up the information.
After the study, I analyzed my notes and the interview responses. I began to categorize my notes into the seven body areas and looked for patterns of how many times I observed particular body areas while watching each participant. If one particular body area continued to emerge in multiple participants, it could mean that the movements were necessary or helpful to play the piece(s). I also observed whether the participants repeated their movement between take one and take two of the same excerpt. This information helps determine whether their gestures are spontaneous or learned as part of their interpretation of the piece. Multiple patterns emerged throughout this analysis process, which are shown in Appendices 1-9.

After analyzing each individual’s videos, I began comparing each participant with the other participants. I compared take one of the Stout, Bach, and Abe excerpts with every combination of participants. Patterns arose and I was able to see how the marimbists compared in tempo, interpretation, gestures, etc. I found the two most similar marimbists and came to conclusions of why they play similarly. Other patterns arose in relation to sex, training, and background experience.

The initial interview responses were sent to me via e-mail. The follow-up interview responses were video and audio recorded in the live session. Afterward, I transcribed all of these additional comments and elaborations. I compiled the responses from the e-mails and transcriptions of each participant and made a chart to show how the responses compared to other participants (Appendices 15b, 16, 17). Many patterns arose from the interview responses and from comparing those responses to the recorded performances. For example, 6/10 participants said they wanted to avoid extra motions, but their performances displayed extra motions (i.e. sways, kicks, small step-slides, facial expressions, and head gestures). This could mean that they want to avoid them but sometimes cannot, or it could mean that they actually place some importance on visual aspects on a more subconscious level. Beverley, on the other hand, says that extraneous motions could enhance her performance at times. She was the only participant who said this. The idea of “playing for show” seems to be generally frowned upon by many of the other performers. However, in performance, many of them do “put on a show” when it comes to their physical gestures. This relates back to the discussions in Chapters 1 and 2, regarding efficient, economized, and necessary movements being generally viewed as positive; and extraneous gestures or those movement unrelated to sound being generally viewed as negative.
4.2 Hypothesis

My hypothesis for this study is that factors such as cultural background, sex, body structure, and training will lead to patterns that explain why marimbists move in particular ways. My initial assumption was that female and male marimbists would look very different as they perform on the marimba. This assumption was based on previous observations from student recitals, professional concerts, and other performances I had viewed in the past. My current assumptions are that there may be gestural differences that relate to the marimbists’ sex: however, they may not be the highest contributing factor to why the performers move the way that they do. Instead, the factors combine together to determine movement, with some outweighing others in any given moment. For example, the performer may choose to move his/her hips at a particular moment in the piece, based on his/her sex, gender identity or degree of “masculinity” and “femininity”.

The terms masculine and feminine arise in this conversation due to cultural norms, and ways of describing performers and their movements. In *Judith Butler’s Precarious Politics: Critical Encounters*, Carver and Chambers write,

> Loosely following the lead of Judith Butler (1990, 1993), I propose that we think not about men and women in the unreflective sense in which all of the authors discussed in the previous section employ these terms, but, rather about complex disciplinary practices that en-gender bodies by regulating, constraining, and constituting their conduct in ways that prove intelligible in light of the never entirely stable or coherent categories of masculine and feminine. ‘Men’ and ‘women’, in other words, are constantly being gendered as they participate in practices mandated by cultural norms of masculinity and femininity, which are themselves contingently related to anatomical equipment. (210)

Of the five males, there were varying levels of “masculinity” and “femininity” across the participants as well as within each participant from excerpt to excerpt or section to section. Of the five females, there were varying levels of femininity and masculinity as well. In sections of the Bach excerpt, some male participants played more gracefully and delicately than the female participants. Conversely, in the Abe excerpt, some female participants played more aggressively and strongly than the male participants.
As I discuss in Chapter 3, Kiyoshi Nagata says there are two styles of taiko drumming: feminine and masculine. When demonstrating the feminine style, he swayed side to side in a flowing manner with more horizontal movements. He described the feminine style to be “a more graceful approach” and “flowy”. When demonstrating the masculine style, he played with his arms moving more vertically and had a strong presence. He said the masculine style is “more aggressive” (Nagata 2009). I saw both styles among most of the ten participants in my study at given points throughout the session.

While analyzing the videos, I began to realize that many similarities among participants occurred between marimbists who studied with the same teacher. This brings us back to what Lecoq discusses in *Theatre of Movement and Gesture*, “Imitation is not necessarily a deliberate act: people who live together come to imitate one another without realizing it” (3). Given the amount of time spent with his/her teacher in lessons, rehearsals, and concerts, a marimbists’ university training can greatly impact the way he/she performs. This could be due to the way the instructor teaches in regard to movement, or due to the way the instructor performs since his/her students often learn through imitation.

My undergraduate university instructor, Dan Moore, was visually stimulating to watch. He performed with the “show aspect” in mind, and discussed this with his students as well. His gestures were never overdone to the point of distraction, however, there were certainly more gestures present in his performance than were necessary to produce a sound. In graduate school, I had a similar experience with one of my instructors, Beverley Johnston. She was interested in the “show aspect” and not afraid to add gestures that could enhance her overall performance. I learned from discussions in lessons as well as observations at her performances. If I had different instructors in my undergraduate or graduate schools, I would likely be a different performer in regard to gestures.

My initial assumptions about body areas were that the arms/mallets would be the most eye-catching because they are the parts that strike the bars and create the sound, which is generally the focus of a performance. However, the fact that the marimba is such a large instrument, the lower body could also be quite eye-catching due to the performer’s need to move his/her feet behind the instrument to get from point A to point B. Depending on how far the audience is from the stage, the head and facial expressions could also be the most observed. My hypothesis
is that each performer could be vastly different in terms of which body area he/she presents the most.

In terms of gesture repetition, I assumed most performers would repeat gestures to some extent between take one and take two. However, I was surprised to find just how closely the takes resembled one another for most participants. This tells me that gestures must be part of the learning process. Some participants discussed how unfamiliar or spontaneous gestures could throw them off in the piece. If we think about muscle memory, this makes a lot of sense because their muscles have been trained to be in a certain place during particular sections. My hypothesis is that repetition generally occurs unless the performer misses notes or has memory slips. Although take one and take two might not always be identical, the vast numbers of similarities show that repetition and gestures go hand in hand. For an example see Chapter 2.2, Figure 3.

It was difficult to predict how each participant would compare with each of the other participants. My assumptions were that females would move similarly to other females, and males would move similarly to other males; although, I did not think this would always occur. I also predicted that participants from the same instructors would move similar to one another based on their training and observations. Lastly, I assumed that participants of similar body structure would move similarly. When comparing two people of opposite sexes, same instructors, and different body structure, what do you get? In the next section, I reveal patterns and trends from the research study.

4.3 Results

In order to analyze the participants in my research study, I took notes and formed data based on my own observations of each participant performing each of the four excerpts: Gordon Stout’s *Mexican Dance No. 2* (beginning to *Dolce*), J.S. Bach’s *Chaconne in D minor* (49 measures from the end, to the end), Keiko Abe’s *Variations on Japanese Children’s Songs* (last two pages), and a two-minute excerpt of their choice (Appendices 18-20). With me as the only observer, there is room for human error. I observed each participant performing each excerpt in a live setting as well as two additional times through video recordings. I compared notes from all three viewings to form my data in order to ensure that my observations were consistent (Appendices 0a-0d). If a
different researcher were observing these participants, he/she would likely have produced different data. Future research could include a similar study with a team of observers.

I divided the results into “Individual” (Appendix 13) and “Comparison” (Appendices 14a-b) due to the two types of analyses that I focused on in this study. I began by comparing each participant to him/herself by watching the videos of take one and take two next to one another on a computer screen. My initial hypothesis was that I would discover many gender or sex-based patterns with same sex participants moving similarly. I also assumed that arms/mallets would be the most observed body area in the majority of participants. I was surprised to find only a few significant sex-based patterns (i.e. similar ending poses) and also was surprised that the lower body was generally the most observed among participants. The overall summary of the individual analysis displays nine substantial findings.

First, the “lower” body had the highest number of overall observed gestures with the “sniff/breathe” category having the least. In all four excerpts, I observed the lower body the most overall. With the marimba being such a large instrument and these excerpts including the need for much movement from one end to the other, the participants often needed to take steps, lunges, slides, or jumps to get from one area to the next. Some participants included extra lower body gestures such as kicks or weight shifts that are not necessarily sound-producing movements. The sniff/breathe rarely occurred among participants although was a gesture that I observed enough to label it as a category (Appendices 6, 7, 9, 13).

Second, the Bach excerpt had the highest number of overall observed movement with the Stout excerpt having the least (Appendices 1-5). In the Bach excerpt, Tom, Pius, Ayano, Doug, and Joël were most observed in the lower body. Beverley, David, Naoko, and Ginny were most observed in their arms. Aiyun was most observed in the torso and full body categories. The Bach excerpt produced the highest number of movement observations across all of the excerpts. With both fast sections and slower sections in the Bach, the participants accumulated a lot of observations in this excerpt likely due to the multiple types of movements that they executed (i.e. quick steps, stretched chord releases with their arms, and torso sways). The Stout excerpt produced the fewest number of overall observed movement likely due to the range being fairly compact and the similar quick tempo throughout the excerpt. In the Stout excerpt, 9/10 participants were most observed in their lower body (Appendix 1a-b).
Third, Beverley had the highest number of observed movements, and Aiyun had the lowest (Appendices 5, 8). As a student of Beverley’s, I have often seen her perform and always enjoy the visual experience and the way she moves to the music. Whether her movements are sound-producing, ancillary, or even extraneous, they add something positive to the musical experience. She is known as an entertaining and excellent performer, and she discusses movement and gesture in her teaching. Aiyun is also known as an entertaining and excellent performer. Although she continued to be the participant with the lowest observed movement, I can say that her movements are visually stimulating and very natural looking. She moves efficiently and does not tend to do anything that does not relate to the music. Her movements align with the sound of the music, as did many of the other participants’ movements.

Fourth, Joël had the highest number of observed lower body movements and Aiyun had the lowest number (Appendix 7). Among all three excerpts, Joël was always most observed in the lower body. In the Stout excerpt, Aiyun was most observed in her face. In the Bach excerpt, she was most observed in her torso and full body. In the Abe excerpt, she was most observed in her arms and torso, whereas in her excerpt of choice, she was most observed in her full body. Overall, Aiyun had the most variety of observed body areas across the four excerpts. Most other participants were generally most observed in their lower body (Appendices 1-4).

Fifth, between the Stout, Bach, and Abe excerpts, 6/10 participants (4/6 male) had the most overall movement observations in the Bach, second in the Abe, and third in the Stout. Joël also had the most for the Bach, and then Stout, and then Abe. Aiyun, Ginny, and Beverley had the following order: 1) Abe, 2) Bach, and 3) Stout (Appendix 5). This data shows that 7/10 participants had the most overall observations in the Bach, and that many of the participants had a similar order.

Sixth, in the Bach and Abe excerpts, the order of mention was as follows: lower, arms, face, body, torso/head, and then sniff/breath. The Choice excerpt had a similar order while Stout was different: lower, face, torso, head, arms, body, and then sniff/breath (Appendix 6). It is not a surprise to me that the Bach and Abe had lower and arms as the top two body areas because those two excerpts call for much movement with their ranges, tempi, and styles.
Seventh, most participants, 7/10 (4 male, 3 female) had lower and arms as their most observed body areas in all excerpts. Face was in the top three for 5/10 (3 male, 2 female). David and Doug had the exact same order of mention: lower, arms, face, body, torso, head, sniff/breath, which was also the same order as the overall average (Appendix 7). Table 1 displays each participant’s top three or four body areas in their order of mention:

<table>
<thead>
<tr>
<th>Participants</th>
<th>Top Body Areas in Order of Mention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiyun</td>
<td>Torso, Face, Arms, Body</td>
</tr>
<tr>
<td>Ginny</td>
<td>Arms, Lower, Torso</td>
</tr>
<tr>
<td>Tom</td>
<td>Lower, Arms, Face</td>
</tr>
<tr>
<td>Pius</td>
<td>Lower, Body, Head, Torso</td>
</tr>
<tr>
<td>Ayano</td>
<td>Lower, Arms, Head, Body</td>
</tr>
<tr>
<td>Doug</td>
<td>Lower, Arms, Face</td>
</tr>
<tr>
<td>Naoko</td>
<td>Lower, Arms, Head</td>
</tr>
<tr>
<td>David</td>
<td>Lower, Arms, Face</td>
</tr>
<tr>
<td>Joël</td>
<td>Lower, Arms, Body</td>
</tr>
<tr>
<td>Beverley</td>
<td>Lower, Face, Arms, Head</td>
</tr>
</tbody>
</table>

Table 1.

Eighth, Beverley had the most observed movement overall. Naoko and Joël were close after. David, Doug, Tom, Pius, and Ayano were similar, then Ginny, and then Aiyun (Appendix 8). When viewing Appendix 8, it is apparent that Beverley, Naoko, and Joël were very close to the same amount (around 250 observations). David, Doug, Tom, Pius, and Ayano’s results were within about 10-30 observed notes from one another (around 150-175). Ginny was around 130, and Aiyun was around 110. The breakdown of each excerpt for each participant can be found in Appendix 5.

Ninth, the sum and average of all seven body areas in all excerpts for all participants, ranked in the following order: lower, arms, face, body, torso, head, sniff/breath (Appendix 9). Presented are the overall averages of each body area and how much each participant deviated from the average. For example, the total number of times that I observed the lower body throughout this study was 763. This includes the seven body areas in all excerpts for all participants. When dividing the total of 763 by 10 participants, the average would be 76.3 for the lower body. The following is the average of the sum of all seven body areas in all excerpts for all participants.
combined (Appendix 9): lower-76.3; arms-38; face-23.8; body-16.6; torso-15.8; head-15.3; and
sniff/breath-1.5

After calculating the average for each body area, I compared these numbers with the number of
times I observed each body area in each participant. For example, I observed Aiyun 17 times in
the lower body, which is a difference of 59.3 from the overall lower body average of 76.3. After
calculating this for each body area, I was then able to calculate the deviation from the average for
each participant. Table 2 shows a comparison of each participant’s numbers to the overall
average of observed movement (Appendix 12).

<table>
<thead>
<tr>
<th>Participant</th>
<th>Deviation from Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom</td>
<td>33.7</td>
</tr>
<tr>
<td>Ayano</td>
<td>43.5</td>
</tr>
<tr>
<td>David</td>
<td>71.7</td>
</tr>
<tr>
<td>Joël</td>
<td>79.3</td>
</tr>
<tr>
<td>Pius</td>
<td>80.9</td>
</tr>
<tr>
<td>Doug</td>
<td>81.7</td>
</tr>
<tr>
<td>Ginny</td>
<td>83.7</td>
</tr>
<tr>
<td>Naoko</td>
<td>92.9</td>
</tr>
<tr>
<td>Beverley</td>
<td>93.9</td>
</tr>
<tr>
<td>Aiyun</td>
<td>102.9</td>
</tr>
</tbody>
</table>

Table 2.

As displayed, Tom moved closest to the same number of times to the overall average among all
participants, and Aiyun was the furthest from the average with a much lower amount of observed
movement. Although Beverley had the most observed movement in the study, Tom is the
highest for this category because he is the closest to the overall average. Beverley is just above
Aiyun because they were the furthest from the average, Beverley being the high outlier and
Aiyun being the low outlier (Appendix 9, 12).

Other results from the individual analysis were specific to each excerpt. For example, in the
Stout excerpt, 9/10 participants had lower as their most observed body area. In the Bach excerpt,
5/10 (4/5 male) had lower as their most observed body area. In the Abe and Choice excerpts,
7/10 (4/7 male) had lower as their most observed body area. Therefore, the lower body produced
the most observed gestures in all (4/4) excerpts, implying that the lower body caught more of my
attention than the rest of the body areas overall in the study. This does not align with my initial
hypothesis of arms/mallets being the most observed body area.

The next part of the results section covers the comparison analysis and focuses on topics such as:
tempi, similar interpretations, similar gestures, lower and arm/mallet similarities, as well as
overall comparison trends among all of the participants (Appendix 14). The comparison results
are summarized in ten points. First, Pius generally played the fastest in the four excerpts,
although he also sometimes played the slowest depending on the section. He had the most
extremes in tempi even within one excerpt. Tom and Ginny generally had slower tempi
compared to the other participants. This was apparent when I watched the videos next to one
another on my computer screen and played them simultaneously.

Second, using sheet music did not seem to affect the tempo that each participant chose to play for
the four excerpts. I wondered if using music might have caused the performer to play slower and
possibly with less confidence due to the fact that he/she needs to read notes off of a page while
playing. Some professional marimbists, however, are more experienced performing with their
music. Others prefer to memorize their music for performances. Using music versus
memorizing did not seem to affect the tempo, and did not significantly affect their movements.
However, among the participants who used written music, I did observe some gestures such as:
leaning torso/shoulders forward to see the music, head craned forward to see the music, and
sometimes stationary feet to stay positioned close to the music. Relating back to Chapter 3, this
would be an example of a “factor related to the performance”.

Third, David and Doug had the most similarities in their playing overall when it came to their
tempi, interpretations, and data results based on the number of observed notes (not to mention
their seven body areas resulting in the exact same order). They had similar thoughts in their
interview responses as well. One explanation for this is that they studied with the same teacher,
Robert Van Sice at Yale at the same time. Lecoq’s idea of imitation arises again. They are also
the same sex, and around the same age. In addition, they also have similar interests within the
field of percussion. However, there were many significant differences between their sound and
movements. These observations are based on my comparison of each participant with the others
by synchronizing their videos. By the end, it was apparent to me that David and Doug’s
comparison results were the most similar (Appendix 14). The best-captured comparisons are shown in Figures 13, 14, 15, and 18. However, many of the similarities were difficult to capture in still images.

Fourth, Joël and Pius may not have scored the highest on the overall comparison; however, they did score the highest on having the most similarities in their gestures. For example, in the Stout excerpt, I observed similar sways in both Joël and Pius’s playing. In the Abe excerpt, both presented a similar sense of confidence with the piece, which was apparent through their full body movements.

Fifth, Ayano and Doug had the closest numbers in the lower body results. However, this is not to say that their movements looked similar in the lower body region. It is only to say that they had the closest number of observations in that region. For example, in the Stout, I observed Ayano most for her slides and kicks, whereas I observed Doug most for his small steps. However, these both fall into the lower body category, meaning that the focus was on that area the most for both participants. In the Bach, I observed Ayano’s wide stances and weight shifts, whereas I observed Doug’s small steps, kicks, and foot flexes. In the Abe, I observed Ayano’s full body involvement, high mallet heights, and extremes. With Doug, I observed his small step-together movements and body turns. Figure 18 displays both Ayano and Doug kicking.

When comparing the participants, I decided to focus on a few key moments in the Stout, Bach, and Abe excerpts (Appendices 18-20). In the Stout excerpt, I compared two moments: 1) after the roll (page two, line one, measure four at forte); and 2) ending pose of this excerpt (page two, line five, measure 1 at ritard). These two moments will be referred to as Stout #1 and Stout #2. In the Bach excerpt, I compared two moments: 1) chords at the end (page two, line five, measure three at forte); and 2) ending pose of the piece (page two, line six, measure seven at the end). These two moments will be referred to as Bach #1 and Bach #2. In the Abe excerpt, I compared five moments: 1) when the range changes from low to high (page one, line five, measure three at mezzo piano); 2) after the roll (page two, line two, measure six at the fermata); 3) near the end when playing in the bottom range (page two, line five, measure one at pesante); 4) ending pose of the piece (page two, line six, measure six at the end); and 5) when the range changes from high to low (page one, line three, measure two at fortissimo). These five moments will be
referred to as Abe #1 through #5. Please refer to the sheet music to view the excerpts and specific musical examples (Appendices 18-20).

Figure 5 displays each participant moving from the low end to the high end during Abe #1. These images are slightly blurry due to the fast movements of the participants. Based on the wide stance that each participant takes at this moment, it is clear that the large step to get to the high range (including a slight body lean) is a necessary or sound-producing movement. The participants are pictured in the order that I met with them for the study (from left to right and moving downward): Aiyun Huang, Ginny Armstrong, Tom Burritt, Pius Cheung, Ayano Kataoka, Doug Perkins (Indianapolis participants); Naoko Tsujita, David Schotzko, Joël Cormier, and Beverley Johnston (Toronto participants).
Sixth, I compared which participants had the most similarities in the arms/mallets category. Beverley and Naoko, as well as Tom and Doug had the most similarities. At Stout #1, Beverley and Naoko were the only participants that simply lifted their mallets and then came directly back down to play the next section. Other participant either lifted and then prepped for the next section, or simply prepped without previously lifting their mallets after the roll. Figure 6
displays Beverley and Naoko in Stout #1. Although their mallet positions do not look identical, they are both executing the same type of motion, which could be labeled as a “release/prep” because it functions as both a release and prep, simultaneously.

Figure 6.

At Abe #4, Beverley and Naoko positioned their mallets similarly for the ending pose, which differed from the other participants. 4/5 of the male participants ended with one hand across their chest, excluding Pius. 3/5 females ended with both hands up, excluding Beverley and Naoko. Figure 7 shows Beverley and Naoko at Abe #4 with one hand raised. Figure 8 shows all of the male participants at Abe #4 with all of them ending with one hand at their side and 4/5 ending with the other hand across their chest, excluding Pius. Figure 9 shows Aiyun, Ginny, and Ayano at Abe #4 with both hands raised high in the air.

Figure 7.
Tom and Doug displayed similarities in Bach #2 and Abe #4 when they both ended with their hand across their chest, and at Abe #2 when they both had their mallets up. Figure 10 displays these three examples in the following order: Bach #2; Abe #2; and Abe #4. It was surprising to me that Tom continually ended with his opposite hand across his chest from 3/5 other males, excluding Pius. Although Tom and Doug are pictured, almost identically, at these three captured moments in Figure 10, their overall results did not indicate that they were that similar of players overall. However, their ending poses were consistently similar and some of their mallet heights as shown below.
Seventh, at Stout #2, Tom and Doug were the only participants that did not end with all of their mallets near the bars. This moment in the excerpt is difficult because it is not the end of the piece, but it is the end of their performance of the excerpt. Most participants treated this moment as the middle of the piece. Tom and Doug, however, treated it more as the end, with Tom
finishing with one hand near the bars and Doug bringing his mallets to the side (“throwing them away”). Figure 11 displays Tom and Doug during Stout #2.

![Figure 11](image1.png)

**Figure 11.**

Eighth, at Bach #1, the tempo that each participant chose did not seem to affect whether he/she stretched the chords or played abrupt chord releases. I observed their arms and mallets after playing the ending chords, in order to see if they used the time by stretching the release or if they did not use all of the time, which leads to an abrupt release. From most stretched to most abrupt, the participants ranked as follows: Beverley, Tom, Ayano/Naoko, Pius, Doug, Aiyun, Ginny/Joël/David. In general, the participants who chose slower tempi had more stretched releases, whereas the participants who chose faster tempi had more abrupt releases. The exception was Beverley because she played fast but also had stretched releases (Figure 12).

![Figure 12](image2.png)

**Figure 12.**

Ninth, at Abe #2, all of the participants, 10/10, had their mallets up after the roll, and 4/5 females froze with both of their hands up. The only female who did not assume that position was
Beverley, who only had one hand up. It is not surprising to me that 10/10 of the participants raised their mallets after the roll, as this type of gesture aligns well with contemporary Japanese marimba music, particularly Abe’s composition which often include loud and dramatic moments. Figure 13 displays all participants at Abe #2.
Tenth, at Abe #4, all of the participants had their mallets up, similar to Abe #2. For the ending pose, although all participants had their mallets up, there were slight variations. 4/5 males had one hand across their chest and the other hand down at their side, excluding one male who had one hand near the bars and the other hand down at his side. 3/5 females had both hands up, excluding two females who had one hand up. It was interesting for me to observe 4/5 males
ending in the same pose, Tom, Doug, David, and Joël (with Pius ending similarly) and 3/5 females ending in the same pose Aiyun, Ginny, and Ayano (with Beverley and Naoko ending similarly). Does this imply that the pose with one hand across the chest and the other hand down is more “masculine” whereas the pose with mallets raised is more “feminine”? On the other hand, it could imply that these particular poses are more typically seen in males and females but do not necessarily have anything to do with their masculinity or femininity. Figure 14 displays Abe #4 among all participants.
Figure 14.

In summary, Pius generally had the fastest tempo while Ginny and Tom generally had the slowest tempi. Overall, using sheet music did not tend to affect tempi, and tempi did not seem to affect gestures except at Bach #1 where all of the participants except Beverley tended to follow patterns of playing fast with abrupt chord releases or slow with stretched chord releases. The
most similar performances based on interpretation and tempo were seen by: 1) David and Doug; 2) Ayano and Beverley; and 3) David and Aiyun. Tables 3-5 display additional information from the comparison analysis including: gesture similarities; lower body similarities, arm/mallet similarities, comparison trends, and individual trends. More information can be found in Appendices 13-14.

**Gestural Similarities**

<table>
<thead>
<tr>
<th>Stout:</th>
<th>Bach:</th>
<th>Abe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayano and Tom-head</td>
<td>Naoko and Joël-body turns</td>
<td>Beverley and Pius-body</td>
</tr>
<tr>
<td>Joël and Pius- sways</td>
<td>Naoko and Ayano-body</td>
<td>Aiyun and Pius-body</td>
</tr>
<tr>
<td>Aiyun and Ayano-end pose</td>
<td>Aiyun and Beverley-body</td>
<td></td>
</tr>
<tr>
<td>Tom and Pius-graceful</td>
<td>Joël and Pius-body</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.

*Joël and Pius had the highest number of similar gestures*

**Lower Body Similarities**

<table>
<thead>
<tr>
<th>Stout:</th>
<th>Bach:</th>
<th>Abe:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiyun and Joël</td>
<td>Ayano and Doug</td>
<td>Ayano and Aiyun-similar stance at Abe #3</td>
<td></td>
</tr>
<tr>
<td>Ginny and Tom</td>
<td>All- step-slide at Abe #1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayano and Doug</td>
<td>All- step down at Abe #5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naoko and Doug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverley and Joël</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverley and Doug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aiyano and Naoko</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tom and Doug</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.

*Ayano and Doug had the highest number of lower body similarities*
Arm/Mallet Similarities

<table>
<thead>
<tr>
<th>Stout:</th>
<th>Bach:</th>
<th>Abe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1: After Roll Release:</td>
<td>#1 Stretched to Abrupt:</td>
<td>#2 Arm/Mallet Position:</td>
</tr>
<tr>
<td>Lift Only: Naoko, Bev</td>
<td>Beverly-Tom-Ayano/Naoko-Pius-Aiyun-Ginny</td>
<td>All had mallets up.</td>
</tr>
<tr>
<td>Prep Only: Ayano, Tom, Pius</td>
<td>Doug-Aiyun-Ginny/Joël/David</td>
<td>4/5 females froze with both hands up except Beverley who had one hand up.</td>
</tr>
<tr>
<td>Lift and Prep: Aiyun, Ginny, David, Doug, Joël</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2 Mallets at End:</td>
<td>#2 Mallets at End:</td>
<td>#4 Arm/Mallet Position:</td>
</tr>
<tr>
<td>8/10 mallets near bars except</td>
<td>Up: David, Tom, Doug, Beverley, Ayano, Aiyun</td>
<td>All had mallets up.</td>
</tr>
<tr>
<td>Tom and Doug</td>
<td>Down: Joël, Pius, Naoko, Ginny</td>
<td>4/5 males had one hand across chest except Pius. 3/5 females both hands up except Beverley and Naoko.</td>
</tr>
<tr>
<td>Tom: One hand near bars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doug: Mallets thrown away</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.

*Beverley and Naoko as well as Tom and Doug had the highest number of arm similarities.

Observed Comparison Trends

Stout:
Tom and Doug both took small steps

Bach:
Tom and Pius both had graceful or flowing movements
Beverley and Tom both had bouncy moments

Abe:
Ayano and Pius both used extremes in tempi and *rubato*
Aiyun and Ayano both had high mallet heights

Observed Individual Trends

Doug- feet in all three excerpts (small steps)
Ginny- arms (elbows out)
Ayano- legs/feet (kicks, weight shifts)
Beverley- head, torso, arms
David- quick pace and movements
Pius- body and arms
All participants repeated most of their gestures from take one to take two
Ayano and Doug- lower body focus
Ginny, Beverley and Pius- arms/mallets focus
Figure 15 displays an image of each participant performing his/her excerpt of choice. Titles and composers of the pieces can be found in Appendices 0a-0b. Some of the “Observed Individual Trends” are highlighted in these images.
Discussion and Analysis

To compare each participant with other participants was challenging because the tempi were different for all of the excerpts and participants. I synchronized the videos as much as possible in order to compare gestures at similar points in the excerpt. I based similarities on tempo, overall interpretation/phrasing, and gestures. Some participants played at the same tempo for a given excerpt but not with the same interpretation. For example, Aiyun and David often played at similar tempi although Aiyun’s rests were longer than David’s in general. Pius played with the most extremes when it came to tempo and rubato. He sometimes played the opening and closing of an excerpt the slowest and then the middle section the fastest among all of the participants.
David and Doug played the most similarly overall. As previously mentioned, they studied at the same university with the same instructor, and also have similar ideas on avoiding extraneous motions and only moving when necessary to fit the musical style. Doug and Ayano also had similar data results in their lower body area. This surprised me given that Doug was the largest participant (6’3) and Ayano was the smallest participant (5’0). I assumed Doug would use less footwork since he has long legs, and Ayano would need to use a lot of footwork with her short legs. However, they had similar numbers when it came to the lower body area. Doug took a lot of small steps and Ayano shifted her weight and kicked one leg fairly often. Ayano had an overall wider stance than Doug and did not take as many small steps. They also studied from the same instructor, Robert Van Sice. Although Ayano and Doug’s numbers aligned, they proved to be very different players. Ayano’s lower body movements were more “feminine” in terms of posture and stance (i.e. weight shifts drawing attention to hips and overall figure), while Doug’s lower body movements were very straightforward with step together motions and slides with the occasional kick.

Joël and Pius scored the most similarities in overall gestures between the Stout, Bach, and Abe excerpts. They both had a sense of grace and used swaying gestures during slower sections. The fact that they scored the most similarities in overall gestures surprised me because I found them to be different performers and interpreters of the music. Beverley, Naoko, Tom, and Doug had the most similarities in their arms/mallets when it came to mallet raises, ending poses, and overall arm gestures. As shown in the figures above, Beverley and Naoko had many arm/mallet similarities, as did Tom and Doug.

At the end of the Stout excerpt (#2), 8/10 participants ended with their mallets near the bars. All participants in the Abe had their mallets up after the roll section (#2), and 4/5 female participants froze with both hands up. At the end of the Abe excerpt (#4), all participants had their mallets up, and 4/5 males had one hand across their chest. 3/5 females had both hands up. These examples display that any patterns related to sex were most apparent in the Abe excerpt more than in the Stout and Bach excerpts.

Patterns found in the interview responses are provided with sex specified (Appendix 17). There was generally an even split among males and females in regard to the topics that they discussed. 6/10 participants discussed upper body and lower body, three male and three female. Most
referred to the upper body as one entity, and differentiated between the upper body and the arms/wrists/stroke/grip. 3/10 participants mentioned body positions, all of whom were males. 4/10 discussed arms/wrists/stroke/grip, two male and two female.

5/10 participants discussed practicing movements, two female and three male. 2/10 mentioned accuracy, both of whom were females. 5/10 mentioned economy of motion or efficiency, three females and two males. All five of the participants advocated for economy of motion and efficiency. 2/10 discussed necessary movements, one male and one female. 7/10 discussed distracting, extraneous, exaggerated, or excess gestures, three female and four male. All seven participants discussed these terms in a negative manner, although Beverley said that extraneous gestures could also enhance a performance. 3/10 mentioned communication, one female and two males. 4/10 discussed interpretation as being related to movement, three females and one male. 3/10 mentioned the word connection in relation to their gestures, one female and two male. 5/10 discussed sound as being related to movement, two female and three male. 4/10 participants discussed relaxing as being an important part of playing the marimba, two female and two male. 4/10 discussed natural movements, three females and one male. 2/10 mentioned their mood/energy in relation to movements, one female and one male. Only 1/10 mentioned the mood (character of the piece) in relation to her movements, and she was female. The few patterns that arose based on sex were as follows: 1) only females mentioned accuracy; 2) only males mentioned body positions; 3) the females in this study are older than the males on average; 4) the males are taller and heavier than the females on average; and 5) the females have been playing marimba longer than the males on average (Appendices 16-17).

The above information discusses key words mentioned in the interviews, response patterns that emerged, and gender patterns. Overall, I was surprised at how many participants mentioned economy of motion, efficiency of movement, and avoiding extraneous gestures. I was also surprised to find that some participants did not perform the way that they thought they did. The general consensus among participants was to try to play efficiently and with economy of motion, avoiding extraneous gestures. Some examples of movements that I observed which contradict these goals include: more footwork than necessary to move around behind the marimba, kicking gestures, facial expressions, and extraneous arm gestures at the ends of excerpts.
As previously stated, Beverley acknowledged that she sometimes uses extraneous gestures; which can potentially enhance her performance. Figure 16 displays Beverley’s last release at Abe #4. I found this moment quite memorable as it had a certain gracefulness and finality to it.

![Figure 16](image1.png)

If a gesture stands out, then what kind of gesture is it, and does it take away from the music? Technically, it would be extraneous if it distracts from the music. If the gesture stands out but is related to the sound (although not sound-producing) then it would be an ancillary gesture. If the gesture produces a sound then it would be considered a sound-producing gesture. In my research study, I observed all three types of movements among all ten participants. It would not be possible to separate each of these movements into categories, nor is it necessary. Each type of movement has its place in musical performance.
Overall, my research data assisted with making connections between one participant and another. The individual results aided in tallying numbers of the body areas that stood out to me the most in the excerpts which each participant performed. Generally, the lower body was the most observed area. In the individual analysis, I also discovered that the participants most often repeated their gestures from take one to take two. This implies that the gestures are practiced and are part of their interpretation of the piece. Gesture repetition did not occur when the participant made a mistake. Many participants discussed natural or spontaneous movements. Although they may produce these types of gestures at given moments throughout the performance, my results from the comparison of take one to take two show that most movements are not spontaneous whether this is conscious or subconscious.

The comparison results, although less concrete and objective than the individual results, are vitally important to this research since the study is a comparison of ten marimbists’ gestures. Placing one participant’s video next to each of the other participants’ videos was informative and quite intriguing to see. Through this process, I discovered that David and Doug had the most similar performances and also studied with the same teacher. I also concluded that Joël and Pius had the most overall gesture similarities, with Ayano and Doug having the most lower body similarities, and Beverley and Naoko having the most arm/mallet similarities. By isolating specific sections in each of the three required excerpts, I was able to make concrete comparisons among all ten participants. From these comparisons, I discovered data such as: all participants had their mallets up at after the roll (Abe #2) and also at the end (Abe #4). This could mean that the style of the piece implies particular ways of moving and expected gestures. It could also mean that the sound-producing gesture after the roll, and at the end of the piece leads to leaving the mallets raised up in the air. Please view the appendices for more detailed results. Appendices 1-3 display comparison results of each individual excerpt accompanied by graphs.
Conclusion

We have to figure this out; and I see that as an integral part of this topic right here because if we don’t show the motion, especially if it’s a short note versus a long note, it doesn’t sound like anything different from the other. If we can at least communicate it through appropriate motion, then that gets us there. I think that’s what makes my interpretation of the Bach kind of work. If you don’t do any of that, you’re not left with much…in the communication of what’s there. (Burritt 2011)

In Tom’s quotation he ponders the question, “What does it communicate?” This is the very question that Michael Schutz centered his research around when he discovered that gesture length affects the listener’s perception of the sound. Although my topic is not the same, the basis for my research also centers on this question, as well as the broader question of “How do marimbists move in performance and why?”

As a percussionist/marimbist, myself, who performs frequently, I have found this research to be extremely helpful in my own playing and thinking. Visual aspects are often overlooked, and it is my goal to bring awareness to the crucial element that movement adds to a performance. Being aware of one’s limitations, strengths, body type, and style of moving within each piece, can greatly enhance the performer’s experience as well as the audience’s experience. When the performer moves awkwardly and distracts the viewers from the music itself, the experience is not as effective. When the performer moves with ease, he/she gains confidence and often plays better which enhances the experience for everyone involved. If gestures flow with the music, they may be noticed but would not take away from the enjoyment of the music, and may in fact add to it. In Naoko Tsujita’s choice excerpt she performed two minutes of “Land” by Takatsugu Muramatsu. This was a prime example of someone playing at ease and a performer who is allowing her gestures to flow with the music seamlessly. Her gestures were subtle, refreshing, and a joy to watch. With a little thought, feeling, and/or physical practice, the performer can express his/her emotions through sound and movements.

Performers should be aware of any movements that waste energy, and also movements that could potentially cause injuries. These types of movements should generally be avoided and are often
labeled as extraneous gestures; however, as previously discussed, there can be a time and place for extraneous gestures if they do not negatively impact the performance. Overall, this project is not to advocate for more movement. Instead, one of the purposes is to advocate awareness of visual aspects, and to encourage moving efficiently in performance while also conveying one’s message. The information from this thesis should assist the ten participants in further understanding their movements, and should also contribute to other performers’ awareness of their movements when applied to their own performance.

As I discussed in the first chapter, the history and evolution of the marimba is unique, with solo marimba performance emerging relatively recently as it continues to gain popularity. As a respected and vital instrument in the percussion family, the marimba now has a place as a solo and ensemble instrument with an increasing repertoire. The data that I collected pertains to marimbists but can also be applied to percussionists and other musicians. I chose to focus on the marimba partly due to my own experience with this instrument and also due to the observations I have made through watching other marimbists perform. This particular instrument produces the most varied gestures among many others I have encountered, partly due to it’s large size and the fact that the performer stands to play the marimba while most of the body is free to move.

By viewing literature and analyzing professional marimbists in performance and conversation, I collected much useful information that contributes to an important discussion about movement and gesture. The literature review portion of this thesis covered a variety of literature from academic sources to performers’ articles, interviews, and method books. Gabrielsson contributed a valuable source to movement research in his bibliographic essay titled “Music Performance Research at the Millenium”, which mentioned numerous movement-based studies, such as Davidson’s (1993, 1994, 2001) studies on expressive movements with an emphasis on how gestural elements help to make a performance meaningful. Particularly interesting and useful sources included McLaren’s (1985, 1988) studies on the visual aspects of solo marimbists which raised the question about what can “make or break” the audiences’ experience.

Churchill and Rapp both discussed efficiency of movement in their articles. Both authors advocated for efficient movements in order to conserve energy and gain accuracy in performance. This idea could be considered one school of thought in musicians’ physical gestures, which aligns with most participants’ ideas, based on their interview responses. Another
school on the opposite end of the spectrum was discussed in Sawyer’s book, *Dance with the Music: The World of the Ballet Musician* (1986), when she described the way “some pianists sway and weave almost to the point of seasickness” (206). Among the scholars and performers discussing movement, some advocate efficient playing; some advocate expressive playing; and others do not explicitly indicate their opinion. The discussion created through the literature review added a critical component to this project as it presented a variety of thoughts and opinions based on valid research and experience. The literature also informed my research study by highlighting key terms such as *economy of motion, efficient, necessary, sound-producing, ancillary, and expressive gestures*, etc. By previously informing myself about the current discourse in movement as well as reading about other movement-based studies, I was able to structure my thesis and form the methodology for my study.

I began the second chapter by discussing motion, movement, and gesture, recognizing the differences and similarities between the three terms among different sources. In this thesis, I used *motion* as a general term for any physical acts, with an emphasis on technical aspects. *Movement* was defined as any physical act, and *gesture* was defined as a type of movement that communicates something or is significant. I continued by defining gesture typologies such as: sound producing, ancillary, expressive, emotional, choreographed, necessary, and efficient. These are all “types” of movement or gesture that are used among scholars and performers. A few other associated terms that were focused on included: economy of motion, repetition, and repeatability.

In the third chapter, I discussed factors related to the performer, the performer’s experience, and the performance. Each factor was displayed through my own thoughts as well as quotations and ideas from other scholars and performers. Factors related to the performer include: body structure, sex, gender identity, cultural background, personality, mood, physical appearance, confidence level, and thought process. Factors related to the performer’s experience include: training, professional level, life experiences, musical experiences, and experiences in movement-related activities such as sports, martial arts, dance, drama, etc. Whereas the first set of factors had more to do with the “nature” side of a person, the second set of factors has more to do with the “nurture” side, as in those things that are part of his/her upbringing and experiences. In the last section I discussed factors related to the performance: logistics, repertoire, musical genre,
performance context, venue, and audience. All of the factors may not always relate to the way the performer moves at all times; although they could all potentially relate at given moments to his/her sound-producing and ancillary gestures.

In the fourth chapter, I presented my research study that involved ten professional marimbists performing four excerpts in 2011/2012. Each marimbist played approximately two-minute excerpts from Gordon Stout’s “Mexican Dance No. 2”, J.S. Bach’s “Chaconne in D Minor”, Keiko Abe’s “Variations on Japanese Children’s Songs”, as well as an excerpt of his/her choice. Each marimbist also answered interview questions via e-mail as well as live follow-up questions, which mostly related to their thoughts about movement in performance, as well as information about their background.

I split the analysis into two categories, one being the “Individual Analysis” and the other the “Comparison Analysis”. Between both analyses, I studied the following topics: 1) gesture repetition in multiple takes of the same excerpt 2) areas of the body that were observed most in each participant 3) a comparison of each participant to the others 4) results, patterns, and trends that arose in the study. After examining specific points in each excerpt, I was able to compare participants’ gestures during significant moments in the music.

In the “Individual Analysis”, the lower body had the highest number of overall observed gestures among all participants, with the breath being the least observed. The Bach excerpt had the highest number of observed movement and the Stout had the least. Beverley had the highest number of observed movement and Aiyun had the least. Joël had the highest number of “lower” body observations and Aiyun had the least. Between the three required excerpts, 6/10 participants had the most observed movement in the Bach excerpt; and then the Abe; and then the Stout. 7/10 participants had “lower” and “arms” as their most observed body areas in all excerpts.

In the “Comparison Analysis”, Pius generally played the fastest whereas Tom and Ginny generally had the slowest tempi. Using music versus playing from memory did not seem to affect the tempo that each participant chose. Speed did seem to affect the way participants played the Bach excerpt. The participants who played slower, generally stretched their chords, whereas the participants who played faster, generally had more abrupt chord releases with the
exception of Beverley. At the end of the Stout excerpt, 8/10 participants ended with their mallets near the bars. David and Doug had the most similarities in their overall interpretations, and they also studied with the same teacher, Bob Van Sice. Joël and Pius had the most similarities in their overall gestures and did not study with the same teacher.

In terms of sex-based trends, all males were observed most in the lower body while only 3/5 females had lower body as their most observed area. At Abe #2, all participants had their mallets up with 4/5 females freezing afterward with both hands raised. At the end of Abe #4, all participants had their mallets up with 4/5 males ending with one hand across their chest and 3/5 females ending with both hands raised. The most similar overall performance based on interpretation and tempo came from David and Doug (both males), and the second most similar overall performance came from Ayano and Beverley (both females). Although the sex-based results did not clearly divide types of gestures or ways of moving among males and females, there were some observed patterns that indicated multiple similarities among marimbists of the same sex in terms of their sound-producing movements and ancillary gestures.

Although it can be difficult to differentiate between sound-producing and ancillary, sound-producing movements generally are not noticed if executed efficiently. Ancillary gestures, on the other hand, could be determined and identified more clearly when compared to other marimbists or to multiple takes of the same piece. Ancillary gestures may stand out, and are often unique to the individual (i.e. Ayano’s weight shifts or Doug’s small steps). As I discuss in the introduction, sound-producing and ancillary gestures may have separate definitions, but it is still unclear whether ancillary gestures may sometimes be contributing to particular types of sound production.

What one views as an ancillary gesture, may actually be producing a particular sound, blurring the division between the two terms. However, in order to discuss movement, it is necessary to make some categorizations to provide a clearer understanding. Figure 17 displays four images of Pius at a climax moment in the Abe excerpt. This moment is at Abe #3, as Pius descends to a low and fff chord at Pesante, was one of my favorite moments as he stood up from his bench to get full power to literally “sit” on the lowest and loudest chord. The sound was incredible due to the movements that preceded and followed the chord.
The movements that I observed included facial expressions, head, arms, torso, body, lower, and breaths. Facial expressions often occurred when the participants were concentrating, focusing, trying to evoke an emotion, or when they made a mistake. Head gestures often occurred with lyrical playing (moving head back and forth) or intense playing (usually vertical). Ancillary arm movements often arose due to articulation, connection of musical line, or extra show. Torso movements (including forward, back, side, and diagonal leans) tended to occur with lyrical playing. Feet were different for each performer with some participants including kicks and
weight shifts, and others keeping their feet relatively stationary. Some chose to take larger steps and lean, while others took smaller steps with slides. The smaller steps tended to be more noticeable. The size of the person did not always align with expected foot patterns. Although highly calculated and analyzed, these gestures are generally easy to watch, as they often relate to the music that the performer is playing. As previously discussed, an expert performer is one who plays efficiently and expressively, which accurately describes all ten participants. Figure 18 highlights a moment from each participants’ session that drew my attention. These images are viewed from the side cameras in order to gain a different perspective on the movements.
Figure 18.
In this thesis, I have discussed physical gestures made by musicians with an emphasis on marimbists, covering various repertoire and instruments within the percussion family. I have also mentioned the importance of researching marimbists’ gestures, as the popularity of the marimba continues to rise. Given the nature of the marimba, this instrument is particularly necessary to focus on, as each performer moves differently depending on his/her body structure, cultural background, and other factors mentioned throughout the thesis.

Although much research has been previously conducted in the area of music and movement, there is a gap in the research when it comes to the relationship between sound-producing and ancillary gestures in percussion performance, as well as the entire spectrum of movement types. How do the movements that are required to produce a sound on one’s instrument relate to ancillary gestures, and do particular types of sound-producing gestures lead performers to certain ancillary gestures? This depends on the instrument and the type of sound-producing movement that it requires.

Depending on how the performer already needs to move in order to produce sound, the performer may or may not choose to play off of those movements to make them bigger or more significant in some way. For example, if the performer needs to stretch both arms to reach the high and low end of the marimba, he/she may choose to turn this into a gesture that shows the difficulty of this maneuver by making the stretch look difficult or possibly leaning the body more than necessary. Another example presents itself in the results section in the images of Abe #2 (Figure 5) where all of the participants are executing the same type of necessary or sound-producing movement in order to quickly get from the low end to the high end with one large step. However, there are variations on this movement when looking closely at David’s leg span compared to Ayano’s wider span. There are also variations in the way participants’ arms look while moving.

If the marimba requires particular types of sound-producing gestures, then why does one performer’s movements sometimes look different than another’s if they are playing the same passage of a piece and potentially trying to produce the same sound, or a similar sound? The answer to this question goes back to the determining factors of how/why performer’s move the way that they do. It depends on factors related to the performer (i.e. physical structure, personality, etc.), factors related to the performer’s experience (i.e. training, experience in
musical related activities, etc.), and factors related to the performance (venue, repertoire, etc.). No two marimbists move exactly the same in performance, and although it may be similar, no one marimbist moves exactly the same from one performance to the next. All of these questions are necessary to discuss in order to further comprehend movement in performance.

This project assists in further recognition of visual aspects in performance. My research contributes not only to the participants and other marimbists/percussionists, but also to other musicians, actors, dancers, and performers. Certain aspects of this project can even be useful for people in other fields, due to its emphasis on movement awareness in general. With efficient and meaningful movements, one can reach the highest level of success in terms of an effective performance. At the end of the day, it is not about how many times performers kick their leg or bob their head or make a facial expression, it is about what that means to the performance and how it informs the audience of the message they are trying to convey through the sound and visual aspects of the music. Based on studies I read about in the literature review (i.e. Vines and Wanderley, Davidson, McClaren, etc.), I took a rather technical approach in my research study although without the inclusion of technology. The study I have presented could also be reexamined without all of the numbers, in a more qualitative approach. I approached the study both qualitatively and quantitatively in order to offer multiple angles.

Given the small scope of this project, there is room for future research. With a larger sample size, sex-based patterns could be further analyzed, as well as more conclusions about performers’ body areas in relation to ancillary gestures. Other studies could focus on one body area such as facial expressions. With additional excerpts, more could be observed about styles of movements relating to styles of repertoire. Other projects could include a focus on movements in relation to the written score. Future research could also be conducted with a stronger emphasis on the audiences’ perspective, including a panel of observers. I will continue researching movement and gesture, which I believe is a vital topic to the field of music performance.


Sandlos, Lisa. 2011. Personal Correspondence with Author. 13 October.


Appendices

Appendix 0a: Video and Live Notes from Research Study on November 11, 2011 and February 5, 2012

AIYUN HUANG
11/11/11
Stout 1st (technically 3rd take but 1st take with music stand placed properly)
First File 6'09'04MOV (16:56)
Initial Notes from Live Performance:
   Comfort, determination
   Ripples
   Open mouth, intense look at music
   Body thrown with movement of line
   Eyebrows up
   Leaned into instrument on roll
   Shifted weight
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Eyebrows
   Torso, head
   Open mouth when looked at music/concentrated
   Mouth open throughout rest of piece
Stout 2nd (technically 4th take but 2nd take with music stand placed properly)
First File 06’09’04MOV (19:02)
Initial Notes from Live Performance:
   Breath through nose to start
   Not same determination
   Big open mouth-surprise-bass note
   Eyebrows
   Slide-pointed on balls of toes
   Both mallets up high after
   Smiles-facial expressions
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Head, torso
   Open mouth when watching music/concentrated
   Feet slides
   Body roll forward
Comparison of Stout 1st (or 3rd) and 2nd (or 4th) (1st viewing of videos)
First File 06’09’04MOV (16:56) for 1st take, and iPhone video for 2nd take
   Almost identical
   Tempo slightly different
   Mouth opened at same time
   Feet moved at same time to same places
Initial Notes from Live Performance:
Large lift after first chord
Step-point other foot
Slight foot shifts
Upper body pulsing and moving with line
Knee bends, shift-point
Torso grows and shrinks
Hunched a bit to see music
Point left foot
Stop body before big chord
Prepped for big chords
Positioned body angled for chords

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Leaned forward to see music
Leaned back after leaning forward
Mallets high after big chords
Positioned body for chords
Ended with mallets up

Comparison of Bach 1st and 2nd (1st viewing of videos)
First File 06’09’04MOV (7:26) for 1st take, and iPhone video for 2nd take (13:08)
Almost identical
One difference in leg position
Ended with opposite hand/mallets raised
More torso movement in second take
1st take music stand low, 2nd take music stand raised for comfort
1st take faster

Aiyun Huang
11/11/11
Abe 1st
Second File 6’32’08MOV (4:00)

Initial Notes from Live Performance:
  Thought excerpt was just pg. 41 (last page) Pg. 40-ff, second to last line
  Big gesture to start
  Big jumps
  Swaying
  Body shake back and forth
  Mouth open
  Crouch
  Lift mallets high
  Startled gesture
  Wide stance to position for low end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  High mallet height
  Bouncy at 3rd part
  Head back and forth
  Very high mallets
  Mouth open
  Leaned into roll
  Mallets high and end pose

Abe 2nd
Second File 6’32’08MOV (5:38)

Initial Notes from Live Performance:
  Sniff
  Slide-left toe lifted
  Head and whole body
  Circular
  Big lift
  Pauses to position
  Mouth open to start big section
  Lunge-left foot raised
  Body leaned with rolled chords
  Mallets up and frozen

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Mallets high
  Slide
  Bouncy
Head forward
Big chord-mallets up
Mouth open
Wide stance
Bouncy
Mallets high

Comparison of Abe 1st and 2nd (1st viewing of videos)
Second File 6’32’08MOV (4:00) for 1st take, and iPhone video for 2nd take (5:37)
  Bent lower into final rolls on second take
  Slower tempo in second take
  Open mouth in second take
  Ended same-held pose longer on second take

Aiyun Huang
11/11/11
Roger Rednote, “Autumn Island” 1st
Second File 6’32’08MOV (9:57)
Initial Notes from Live Performance:
  Wide stance
  Body roll
  Mallets up
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Octopus-like movements
  Slides
Rednote 2nd
Second File 6’32’08MOV (11:02)
Initial Notes from Live Performance:
  More determination
  Octopus-like movements
  Body rolls
  More confidence
  Head
  Mallets up and froze
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Octopus-like movements
  Body rolls
  Slides
Comparison of Rednote 1st and 2nd (1st viewing of videos)
Second File 6’32’08MOV (9:57) for 1st take, and iPhone video for 2nd take (11:00)
  Almost identical
  Different in tempo
  Ending pose held longer in second take

Ginny Armstrong
11/11/11
Stout 1st
First File 17’11’MOV (0:46)
Initial Notes from Live Performance:
Stationary
No extra movement
Left food raised, points
Laugh
Firm upper body to match music
More fluid in last section
Step slide
Arms flow in and out
Shoulder raise

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
One step
Weight shifts
Slight slide
Smile
Stiff at top with torso and arms
Step slide

Stout 2nd
First File 17’11’MOV (2:44)

Initial Notes from Live Performance:
Same opening
Slight lip movements
Left toe raised
Came down to instrument for block chords
Same firm upper body to match the music
Flowy arms but firm upper body for last part
Graceful step
Slow, steady, careful at end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Weight shifts
Step slide
Stiff at top
Buoyant on soft, slow part, elbows out

Comparison of Stout 1st and 2nd (1st viewing of videos)
First File for 1st take 17’11’MOV (0:46), and iPhone video for 2nd take (2:42)
Almost identical
Barely anything that stands out as different
Looking in top range with chords both times

GINNY ARMSTRONG
11/11/11
Bach 1st

Second File 7’23’59 MOV (0:34)
Initial Notes from Live Performance:
Shift in upper body to position self
Slight lift in toes
Line grew and body opened up
firm with ritards and to match interpretation

Swaying

Lip movements when got louder and torso grew

Big mallet lifts after chords

Head determined at end chord

Video Notes (1st viewing without looking at Initial Notes from Live Performance)

Abrupt rises of mallets on chords

Lean

Little steps

Lean back

Positioned arm/elbow

Mallets high after each chord-abrupt

Bach 2nd

Second File 7’23’59 MOV (3:37)

Initial Notes from Live Performance:

Lip movements

Shifts in feet

Head left to right when built musical line

Ascending line, raised left foot

Lips when got louder, faster and higher

Ripple roll with ripple in body-just 1st ripple roll

Head gestures

Big mallet lift before and after big chords

With purpose

Video Notes (1st viewing without looking at Initial Notes from Live Performance)

Abrupt raises

Lip movements

Small steps

Slight body ripple with ripple in music

Mallets high after chords

Comparison of Bach 1st and 2nd (1st viewing of videos)

Second File for 1st take 7’23’59 MOV (0:34) and iPhone video for 2nd take (3:34)

Almost identical

One take might have slightly more torso or head at certain moments

Mallet lifts on last chord section-identical!

GINNY ARMSTRONG

11/11/11

Abe 1st

Fourth File 7’32’45 MOV (0:25)

Initial Notes from Live Performance:

Stiff stance and arms in beginning

Big shift to bass

Rigid on bass

Fast and loud-firm

Big mallet raise after chord

Big mallet raises and pause after roll
Rigid on descending line
Position change for last chord-pause
Big mallet raise after last chord

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Leaned over to begin
Elbows out
Slide
Big step, slide
Stiff
Big mallet release high in air
Small steps
Lean forward for last roll
Mallets up and freeze

Abe 2nd
Fourth File 7’32’45 MOV (2:48)
Initial Notes from Live Performance:
Hunched to start
Little leg movements, not as comfortable second time
Big mallet raise after chord
Lips pursed on high fast rolls
Pause and freeze
Carefully placed low notes at end
Same ending
Mallets up in between final rolled chords and last little bit

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Leaned forward to begin
Elbows out
Small steps
Big leap
Big mallet release
Lips/mouth movements
Stiff release after roll
Abrupt raises
Lean forward-last roll
Mallets up and freeze-abrupt

Comparison of Abe 1st and 2nd (1st viewing of videos)
Fourth File for 1st take 7’32’45 MOV (0:25) and iPhone video for 2nd take (2:55)
Identical
Tempo slight different in sections
Mallets raised the same
Starting position the same

GINNY ARMSTRONG
11/11/11
Villo Lobos, “Scottisch-Choro” 1st
Fifth File 7’38’44 MOV (0:38)
Initial Notes from Live Performance:
Lip movements
Shifted weight
Leaned forward-arms-elbow out
“ “
Swaying whole body to position and flow with music
Cute mallet angles at end to match

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Elbows
Shifted hips, weight
Elbows in/out
Slight steps/weight shifts
Lean forward, elbows out
“ “
Arms into body
Mallets pose at end

Villo Lobos 2nd
Fifth File 7’38’44 MOV (3:13)

Initial Notes from Live Performance:
Shift and sways
Buttocks out when lean forward
Shoulders up, arms in for crunch chord
Lean forward, arms out
Lift left foot-toe and side of foot
Left toe up-then side, then heel
Lips-facial expression

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Weight shifts
Lean forward, elbows in/out
Shoulders up
Leans
Lean forward, elbows
“ “
Arms into body
Mallets same at end

Comparison of Villo Lobos 1st and 2nd (1st viewing of videos)
Fifth File for 1st take 7’38’44 MOV (0:38) and iPhone video for 2nd take (3:06)
Almost identical
Same mallet heights, flicks
Same positions with body

TOM BURRITT
11/11/11
Stout 1st (technically 2nd)
First File 8’50’52 MOV (1:21)
Initial Notes from Live Performance:
Smile
Furrowed brow, head back and forth
Rigid
Leaned into roll and climax
Step-slides

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Strong
Eyebrows
Small step
Larger step
Rigid
Step side, ““
Lean back, rolled head with roll
Lots of small step-side

Stout 2nd (technically 3rd)
First File 8’50’52 MOV (2:52)
Initial Notes from Live Performance:
Step up and start
Facial expressions, eyebrows raised
Left foot lift
Lift body and staccato
Lean back and gentle roll
Agitated on last part-assertive-aggressive

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Determined
Eyebrows
Rigid to match the music
Small side steps
Bouncy
Lean back, head roll with body

Comparison of Stout 1st and 2nd (1st viewing of videos)
First File for 1st take 8’50’52 MOV (1:21), and iPhone video for 2nd take (2:52)
Mostly identical movements
Different tempo, rubato
Ended same, began same

TOM BURRITT
11/11/11
Bach 1st
First File 8’57’47 MOV (0:15)
Initial Notes from Live Performance:
Determination in first stroke
Eyebrows
Body rolls with ripple rolls
Mallets to side
Floppy release, elegant
Steps
Ascending elegant
Sniff; I could see and feel build
Strong attack, slow release-determination-almost upset
Left arm down to side

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Smooth, stretched after chords
Eyebrows
Reading harder
Bent wrist release
Step, slide
Lean forward, back
Arpeggios-stronger stroke
Resistance stroke on chords-strong
Mallets down for last pose

Bach 2nd
First File 8’57’47 MOV (3:47)
Initial Notes from Live Performance:
Some extra mallet flop motion
Eyebrows furrowed, facial expressions
Slight step back and shifts
Head down, then lifted with ascending line
Slight foot slides, shifts, right step back
Left foot pointed sometimes
Step back and turn body to side
Restrain, resistance on big chords
Sniffs, looked upset towards end-then sad
Same left

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Fake-out stroke-prep
Lean back, head back
Eyebrows-serious
Step-slide
Resistance at end chords
Looked upset
Same last pose

Comparison of Bach 1st and 2nd (1st viewing of videos)
First File for 1st take 8’57’47 MOV (0:15) and iPhone video for 2nd take (3:44)
More bent over in first take
One foot different
Mostly identical, same beginning and ending

TOM BURRITT
11/11/11
Abe 1st
First File 9’06’31 MOV (0:44)
Initial Notes from Live Performance:
Not as comfortable
Determination in bass-low jump
Lyrical-strong-switch
Little steps
Upset
Step back-shifts to low end
Right arm across with mallets
Left arm down

Video Notes (1\textsuperscript{st} viewing without looking at Initial Notes from Live Performance)
- Looked at music intensely
- Big step down
- More fluid arms
- Determined-eyebrows
- Step-step, Small steps up
- Elbows in-out
- Head down on rolls
- Sectioned steps
- Small steps
- Mallets up-down

Abe 2\textsuperscript{nd}
First File 9’06’31 MOV (2:49)
Initial Notes from Live Performance:
- Eyebrows up-timid, determination
- Jump-slide-feet together
- Sniff on build-arms out on side after release
- Sniff before section
- Head down to watch accuracy
- Facial expressions-determination

Video Notes (1\textsuperscript{st} viewing without looking at Initial Notes from Live Performance)
- Head-eyes same
- Step-shift weight
- Big leap down
- Small steps, small steps down
- Elbows in/out on chords
- Lean forward and head forward on rolls
- Sectioned steps down
- Same end pose

Comparison of Abe 1\textsuperscript{st} and 2\textsuperscript{nd} (1\textsuperscript{st} viewing of videos)
First File for 1\textsuperscript{st} take 9’06’31 MOV (0:44) and iPhone video for 2\textsuperscript{nd} take (2:49)
- 1\textsuperscript{st} time didn’t position self same at end, further toward middle
- Different tempo

TOM BURRITT
11/11/11
John Sery, “Night Rhapsody” 1\textsuperscript{st}
First File 9’12’38 MOV (0:41)
Initial Notes from Live Performance:
- Sniff
- Step back
- Lunge
Left arms up - right arm down
Mallets almost fall off marimba
Staccato-firm

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**
- Small steps
- Big lunge
- Lots of head banging/bobbing
- Lean in
- Steps
- Lunge
- Stayed low
- Mallets “fall off” bars
- Elbow up for 1-handed roll
- Dead strokes-sniff

**Sery 2nd**
First File 9’12’38 MOV (2:42)

**Initial Notes from Live Performance:**
- Foot choreography same-lunge
- Then right tow lift to come back to central position
- Sometimes Taiko-like stance
- Same mallet fall idea
- Shifted body to get better angle-accuracy
- Knees bent

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**
- Big lunge-reaches
- Small steps
- Determined
- Steps
- Head with beat
- Mallets “fall off” bars
- Elbow up on 1 handed roll
- Dead strokes-sniff

**Comparison of Sery 1st and 2nd (1st viewing of videos)**
First File for 1st take 9’12’38 MOV (0:41) and iPhone video for 2nd take (2:42)
- Almost identical, same beginning and end
- Body position different once
- Same mood, angles, etc.
- Mostly same tempo

PIUS CHEUNG
11/11/11
Stout 1st
First File 10’20’55 MOV (0:32)

**Initial Notes from Live Performance:**
- Flowy
- Flowy wrist motion-arch
- Arms, elbows wide-flexible
Left foot lifted in intense section
Slide with position change

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Head opposite direction of mallets
Slide to be centered
Raised left foot sometimes

Stout 2nd
First File 10’20’55 MOV (3:05)
Initial Notes from Live Performance:
  Upper body and head flowy
  Change in movement with style
  Took time on ripple
  Closed eyes
  Leaned back and “sat” on final chord
  Leaned

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Head same
  Flowy but fast-paced
  Head back and forth
  Slide, wide stance
  Rested right foot on its side
  Flexed left foot on roll
  Then put both feet down hard and sat finally at end of roll

Comparison of Stout 1st and 2nd (1st viewing of videos)
First File for 1st take 10’20’55 MOV (0:32) and iPhone video for 2nd take (3:05)
  Movement very similar- legs, head, torso, feet
  Tempo different
  More lean but with torso at end in 2nd take

PIUS CHEUNG
11/11/11
Bach 1st
First File 10’26’44 MOV (0:30)
Initial Notes from Live Performance:
  Careful, eyes closed, emotional-eyebrows
  Flowy arms
  Slow-carefully placed
  Stood to go up in range
  Landed on low note
  Intense, fast, eyes closed
  Mallets out
  Sat on low notes and chords-leaned into it

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Slow, lots of head shaking, almost painful to play
  Elbows, eyebrows
  Flowy
  Wing-like arms
Slide-lean into notes
Slight foot lift
Change body/torso on fast passages
Really leaned into chords
Body ripples with ripples
Stood
Toe raises-feet together

Bach 2\textsuperscript{nd}
First File 10’26’44 MOV (2:33)
Initial Notes from Live Performance:
Focused
Instant character
Head and arms flow together
Same care and placement
Ascending, leaned, feet comfortably planted
More intense
Eyes closed
Sniffs
Big leans into low chords
Prepped us for what he would do

Video Notes (1\textsuperscript{st} viewing without looking at Initial Notes from Live Performance)
Head shakes
Slow arms/elbows
Slow to raises
Right foot sideways
Torso/head leaned forward
Step-sit
Fast passages-stood-tense
Then sat-minimal movement on fast stuff except head and torso lean
Big leans into chords

Comparison of Bach 1\textsuperscript{st} and 2\textsuperscript{nd} (1\textsuperscript{st} viewing of videos)
First File for 1\textsuperscript{st} take 10’26’44 MOV (0:30) and iPhone video for 2\textsuperscript{nd} take (2:33)
Feet different, more movement second time
Tempo different
Then feet same
Head/torso slightly different-mostly same

PIUS CHEUNG
11/11/11
Abe 1\textsuperscript{st}
First File 10’36’58 MOV (0:17)
Initial Notes from Live Performance:
Careful-agitated
Step
Huge change to low end
Lean forward, jump with music
Sat on low chord-stood first
Huge mallet rises
Big breath before last chords
Lifted feet
Left arm threw back at end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Raised left toe
Feet prep for big jump/stance
Determined on low/loud stuff
Tapped left toe with rhythm
Whole body and arms into chords and head
Literally sat on low chords
Left arm above head
Lots of strength
Toes with rhythm at end

Abe 2nd
First File 10’36’58 MOV (2:13)

Initial Notes from Live Performance:
Slide-big slide down to bass
Lean forward
Bounce on bench
Furrowed eyebrows
Whole body into it; Stand and sit into low note
Shift position on bench, “ ”

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Slight lean/head into beginning
Raised heel
Same lunge/leap to low end
Head/face on loud/low stuff
Bouncy torso
Head and feet with rhythm
Sat on low chords-stood, then sat
Flowy/strong bass notes above head
Feet raised/lowered

Comparison of Abe 1st and 2nd (1st viewing of videos)
First File for 1st take 10’36’58 MOV (0:17) and iPhone video for 2nd take (2:13)
Almost identical
Slightly different feet but usually same
Head, torso, feet, slides, body position similar
Tempo very similar

PIUS CHEUNG
11/11/11
Pius Cheung, “Nocturne in F Major” 1st
First File 10’41’36 MOV (1:29)
Initial Notes from Live Performance:
Placed before started bass note
Eyes closed
Flowy
Shift-rotated left hand down
Looked like he would cry on climax to high register
Head shaking-like “no”
Leaned forward

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Head shakes
Slight steps
Slight heel drops
Fairly stationary
Elbow out to position chord
Loose arm/wrist-especially right
Right foot leaned
Toe tap

Cheung 2nd
First File 10’41’36 MOV (3:47)

Initial Notes from Live Performance:
Slight steps
Heavy breathing
Head down and up
Looked out to audience once
Head shakes “no”
Flexed right toe

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Head towards bass notes
Small steps up in range
Lots of head shakes
Facial expressions
Fairly stationary
Elbow out to position
Lifted both feet up, then down
Left toe raise
Right foot lean
Slide/lean with direction of line
Raised toe, then slide

Comparison of Cheung 1st and 2nd (1st viewing of videos)
First File for 1st take a10’41’36 MOV (1:29) and iPhone video for 2nd take (3:47)
Mostly same tempo
Mostly same torso, head, feet, slides
A few slight differences in feet at end, ending leg position different

AYANO KATAOKO
11/11/11
Stout 1st
First File VLC MOV001.MOD (0:27)

Initial Notes from Live Performance:
Started with right foot up
Raised left foot, then right
Kicks
More feminine graceful stance, pose
Walks, steps
On loud roll, head
Eyebrows up in last section

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**
- Feet stationary
- Left kick
- Left foot raise
- Left kick, raise
- Large steps, together, etc.
- Minimal torso movement, same head shakes with movement of line

**Stout 2nd**
Second File VLC MOV002.MOD (0:30)

**Initial Notes from Live Performance:**
- Same foot, foot taps
- Kind of horse stance, strong but feminine
- Froze in air on fast passage endings
- Looks like off balance, when going up range
- Slight throws with arms
- Closed eyes
- Flowy elbows

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**
- Left foot out
- Right kick
- Feet apart, together
- Head with mallets, torso stationary
- Big kicks—usually left
- Flowy arms at last section
- Head

**Comparison of Stout 1st and 2nd (1st viewing of videos)**
First File for 1st take VLC MOV001.MOD (0:27), and iPhone video for 2nd take (0:30)
- Mostly same
- A few different kicks in different places
- Slightly more movement on second take
- Leaned over more at end of first take

**AYANO KATAOKO**
11/11/11
Bach 1st

**Third File VLC MOV003.MOD (0:18)**
**Initial Notes from Live Performance:**
- Weight changed from foot to foot
- Feminine leg poses
- Step side, step together
Eyebrows-otherwise no facial expression
Kick when changing position and angling mallets
More left foot kicks/raises
Step side-slide over
Long note-left mallets and pulled gently
Sniff before big chords
Last note-one arm raised-pose

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Slow, flowy release stroke
Small steps
Weight shifts-horse-like stance
Head
Fairly stationary
Elbow whips-still smooth
Left kick with body position change
Left kicks
Kept mallets down mostly after big chords

Bach 2nd
Fourth File VLC MOV004.MOD (0:42)

Initial Notes from Live Performance:
   Gently
   Foot lifts
   Raised shoulders
   Toe in, feminine
   Left foot raise
   Raised right foot
   Left foot raise
   Sniff before chords
   Big prep stroke (same ending)

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Slow mallet raises
   Careful
   Step-touch
   Head with rhythm
   Left kick
   Step, slide-small and large
   Left kicks
   Weight shifts
   Step-slide/together

Comparison of Bach 1st and 2nd (1st viewing of videos)
Third File for 1st take VLC MOV003.MOD (0:18), and iPhone video for 2nd take (0:42)
Almost identical
A few different foot movements and foot positions
Same mallet height and identical at end chords

AYANO KATAOKO
11/11/11
Abe 1st
Fifth File MOD005.MOV (0:46)
Initial Notes from Live Performance:
  Head shake
  Left shoulder
  Head nod
  Left elbow in out-fish tail
  Laid into bass note
  Strong end
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Big leap down
  Leaned forward on fast passage
  Big step-together
  Torso/head with chords
  Horse stance
  Right leg up
  Head banging/bobbing on rock-out part
  Froze with mallets up

Abe 2nd
Fifth File MOV005.MOD (3:13)
Initial Notes from Live Performance:
  Big prep stroke
  Slide
  Head cocked forward
  Slide feet apart-together, etc.
  Has to blink with sound and height
  Shook head with end rolls
  Strong end
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Elbow movement in and out
  Horse stance
  Big leap
  Lean forward on fast passage
  Step-together
  Torso and head with rhythm
  Shoulders up
  Step-together
  Raise right foot
Comparison of Abe 1st and 2nd (1st viewing of videos)
Fifth File for 1st take MOD005.MOV (0:46), and iPhone video for 2nd take (3:13)
  Mostly same tempo
  Almost identical- a few different head and feet movements

AYANO KATAOKO
11/11/11
Stuart Sanders Smith, “Castine” 1st
Sixth File MOV006.MOD (0:21)
Initial Notes from Live Performance:
  Higher elbows
  Raised arms up to shoulder level sometimes
  Eyes closed
  Head with direction

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Slow arm gestures
  Head back and forth
  Delicate
  Kick in right foot
  Unexpected arm position to get chord
  Ending pose-froze

Smith 2nd
Sixth File MOV006.MOD (1:36)

Comparison of Smith 1st and 2nd (1st viewing of videos)
Sixth File MOV006.MOD (0:21) for 1st take, and iPhone video for 2nd take (1:36)
  Almost identical
  Slight different in torso/arms before last chord
  Same kicks and unexpected arm position

DOUG PERKINS
11/11/11

Stout 1st
Ninth File VLC MOV009.MOD (0:38)

Initial Notes from Live Performance:
  Slight kick
  Feet together, apart, together
  Determined look, expression
  Side steps-calculated

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Feet together
  Slight kick-step
  Step-together “ “
Feet together, apart
Step-slide
Head down at music
Torso erect

Stout 2nd

Ninth File VLC MOV009.MOD (2:07)

Initial Notes from Live Performance:
- Purused lips, eyebrows furrowed
- Step out, in right away
- Seemed like trying to keep feet together

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
- Feet mostly together
- Small steps-together
- Step-together
- Feet together
- Step-together
- Head down-reading

Comparison of Stout 1st and 2nd (1st viewing of videos)

Ninth File for 1st take VLC MOV009.MOD (0:38), and iPhone video for 2nd take (2:07)
- Mostly same
- A few different step-together-feet positions
- Tempo similar

DOUG PERKINS
11/11/11

Bach 1st

File VLC MOV00A.MOD (0:18)

Initial Notes from Live Performance:
- Foot raise
- Flowy wrist release
- Left arm raise fluid/flowy
- Side step
- Careful
- Pursed lips-deep breaths
- Body angles
- Forward release in bass hand
- Turned body
- Strong stroke
- On tip toes in big chords
- Quickness at end chords

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
- Small steps together
- Loose wrists
- Concentrated on reading
- Careful
- Raised on toes sometimes
- Leaned with line at times
Kick with right foot
Step together
Flexed right foot-toe up
Kicks with left foot
Slight body roll
Aggressive chords-staccato-like

Bach 2nd
File VLC MOV00A.MOD (3:36)

Initial Notes from Live Performance:
Left elbow
Feet together-shifted weight
Body in towards marimba
Raised head, shoulders
Strong bass chords
Kicks
Toe raises
Determination, left hand

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Slow raises
Loose left wrist on release
Right foot flex
Raises with body and mallets
Concentrated on reading
Kick right, flex left foot
Small steps together
Angled body to position
Kicks (left)
Aggressive chords-staccato-slight loose left wrist
Right kick and change in body position

Comparison of Bach 1st and 2nd (1st viewing of videos)
File for 1st take File VLC MOV00A.MOD (0:18), and iPhone video for 2nd take (3:36)
Mostly identical
A few different mallet heights toward end
Same ending pose
A few different kicks and step togethers

DOUG PERKINS
11/11/11
Abe 1st
Tenth File VLC MOV010.MOD (0:36)

Initial Notes from Live Performance:
Step/kick back
Big jump-knees bent on low end
Facial expression
Step over-together-again other way
End with arm at chest-other one down

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Small step together
Big leap (step) down
Step-slide
Small step togethers
Opened mouth
Resistance stroke on big chord
Body position side
Step-together (small)
Mallets thrown to side of body at end

Abe 2nd
Tenth File VLC MOV010.MOD (2:39)
Initial Notes from Live Performance:
Low end-knees bent
Left arm circular
Little steps down range
Looked upset
Right toe raise, kick

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Elbows wide
Big leap, right foot no weight
Small step togethers
Step-slide
Determined look
Feet together
Weight on left foot
Body position to side
Step togethers
Mallets to side at end

Comparison of Abe 1st and 2nd (1st viewing of videos)
Tenth File for 1st take File VLC MOV010.MOD (0:36), and iPhone video for 2nd take (2:39)
Almost identical
Slightly different tempo
Feet position similar
Mallets to side at end same

DOUG PERKINS
11/11/11
Joe Harchanko, “Heavy Circles” 1st
Eleventh File MOV011.MOD (0:43)
Initial Notes from Live Performance:
Different confidence and determination
Fairly central planted-reached

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Determined look
Fairly stationary
Weight shifts
Feet apart, together, etc.
Interesting feet
Step-together
Wide stance

Harchanko 2nd
Eleventh File MOV011.MOD (2:23)
Initial Notes from Live Performance:
  Big first stroke and release
  Not others as big
  Stroke into bar in treble for volume?
  Slight shifts but feet fairly planted
  Wide stance-lunge

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Feet together
  High mallet height
  Mallets to side on rest
  Mallets over-circle-like wave/rainbow
  Weight shifts-lunges-sways
  Knees bent, up on toes
  Step together
  Big step out, then feet together
  Slight lean forward with torso

Comparison of Harchanko 1st and 2nd (1st viewing of videos)
Eleventh File MOV011.MOD (0:43) for 1st take, and iPhone video for 2nd take (2:23)
  Mostly same
  Slightly different tempo
  A few noticeable differences in stance (feet apart versus together)

NAOKO TSUJITA
02/05/12
Stout 1st
First File MOV001.MOD (0:54)
Initial Notes from Live Performance:
  Focused
  Slight head nods
  Slight steps up, left toe pointed-feminine
  Eyebrow raise
  Slide up to upper range
  Leaned back on heal of boots
  Strong stroke
  Eyebrow raise/smile

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Weight mostly on right leg
  Slight torso movement
  Small steps, weight shifts
  Head, eyebrow movement
  Slides, toe points
Mallet raise
Step together apart

Stout 2nd
First File MOV001.MOD (3:03)
Initial Notes from Live Performance:
  Prep
  Slight shift in feet
  Same head nods with body
  Slight kick when coming up in range
  Weight on one foot
  Lifted legs
  Slides
  Back on heel of boot
  Slight pause-no smile or eyebrow raise

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Slight head
  Slight feet weight shifts
  Torso with line
  Step together
  Weight shifts
  Lifted right leg-almost kick
  Torso and head
  Mallet raise high
  Weight usually one leg
  Froze at end

Comparison of Stout 1st and 2nd (1st viewing of videos)
First File for 1st take MOV001.MOD (0:54), and iPhone video for 2nd take (3:03)
  Almost identical
  Same stance
  One-foot different
  Mostly same feet
  Went back on heel of boot at same time
  Same torso
  Slightly different leg/feet position at end

NAOKO TSUJITA
02/05/12
Bach 1st
Second File MOV002.MOD (0:38)
Initial Notes from Live Performance:
  Determination in first chord
  Slow moving gestures
  Strong chords
  Flowy motions
  Lips together-tight
  Feet stationary, tiny steps, weight on one foot
  Eyebrow raise
Head with scalar passage
Slight kick, shuffle, steps
Positioned for bass chords
Head nods as got louder
Weight shifts-to toes
Low note-slow raise-slow release on chords
Relaxed wrists
Shoulder raises
Left arm side at end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Slight shoulder raise with release of chords
Slight foot movements
Slow raises with mallet releases
Head with line of bass
Loose wrist in bass
Elbow loose and positioned for chords
Body position to side to get chord
Mallets high on release
Slight lean forward
Lift from wrist and loose arms on big chords
Positioned body for each chord
Mallets to side at end

Bach 2nd
Second File MOV002.MOD (4:26)
Initial Notes from Live Performance:
Big breath to start
Elegant and majestic
Lips same-together
Carefully placed notes
Mallets flowy verticals, comfortable
Restarted one phrase-vocalized melodic line
Slight sniffs sometimes
Determined with double stops in left hand
Leaned forward to go to bass then opened body to continue line
Smiled
Relaxed wrists on chords
Circular motions towards end
Same left hand ending

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Ripple with arms on ripple chord
Loose arms/wrists
Back on heel of boot
Step together
Weight shifts-pointed toe
Elbow out to position chords
Body to side, feet facing angle
Mallets high
Wide stance  
Shoulders slightly raise on release of chords  
Mallets dropped on bars-heavy  
Mallets to side at end  

Comparison of Bach 1st and 2nd (1st viewing of videos)  
Second File for 1st take MOV002.MOD (0:38), and iPhone video for 2nd take (4:26)  
Slightly different feet  
Different stance and feet a few times  
Same head and leans  
End chords and last note-same

NAOKO TSUJITA  
02/05/12  
Abe 1st  
Third File MOV003.MOD (0:38)  
Initial Notes from Live Performance:  
Slight step  
Big slide down to bass-looked like enjoying leap  
Small steps  
Mallets to head level  
Smile/eyebrow raise  
Head and body into low end  
Fast quick rolls  
Big mallet raise before ending-above head  
Ended with mallet raise  

Video Notes (1st viewing without looking at Initial Notes from Live Performance)  
Stationary  
Small foot movement  
Big lunge to bottom  
Almost like reaching forward  
Step-together  
Head with rhythm  
Mallets high  
Small footwork  
Pause with mallets up  
Step together  
Pause-mallets up  
Mallets in air afterward

Abe 2nd  
Third File MOV003.MOD (3:37)  
Initial Notes from Live Performance:  
Mallet raise in beginning  
Breathe in through nose on soft part  
Step to side then together to move down/up  
Back on heel of boot  
Lips together  
Head nods on loud low chords
Smile/eyebrow raise
Same mallet raise at end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Stationary-slight lean
Small foot work
Big leap
Big leap up
Head with rhythm
Mallets up and pause
Small steps
Mallets and froze
Step-together
Head banging/bobbing on rock out part
Mallets up froze
End with right mallets up

Comparison of Abe 1st and 2nd (1st viewing of videos)
Third File for 1st take MOV003.MOD (0:38), and iPhone video for 2nd take (3:37)
Almost identical
Feet position and head same
Slight different tempo

NAOKO TSUJITA
02/05/12
Takatsugu Muranatsu, “Land” 1st
Fourth File MOV004.MOD (0:32)

Initial Notes from Live Performance:
Move with foot and then slide
Pause with slow mallet raise
Eyebrow raise
Walked freely behind marimba
Breath then slow prep, sniff
Smaller steps after step
Weight on one foot
Ended phrase with mallets up
Slow big chords with arms lifted and mallets up

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Big step-slide
Small foot shifts
Gentle arms-flowy, loose wrists
Step-together
Small steps together
Body position forward or to side/diagonal
Shoulders sometimes raised
Head slight nods with music
Weight shifts
Fairly wide stance
Kick
Step-together
Body/arm positions for chords

Muranatsu 2nd
Fourth File MOV004.MOD (4:05)
Initial Notes from Live Performance:
  Slow raise at top end
  Slow raise at pause
  Loose flexible wrists
  Head with melodic line
  Step then slide
  Walk down to lower end
  Pause with mallets suspended in air
  Slight slides, heel of boot, weight shifts
  Leaned back
  Kick up in air
  Shoulder raise
  Lips together
  Head with line-head back
  Head with big loud chords
  Slow mallet raises
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Big step-slide
  Pause-mallets up
  Step back with left foot
  Loose wrists
  Body position to diagonal at times for chords
  Weight shifts-toe points
  Step back, over
  Kick-foot raise
  Shoulder raise
  Kick
  Step together
  Arms/body position for chords
Comparison of Murantastu 1st and 2nd (1st viewing of videos)
Fourth File MOV004.MOD (0:32) for 1st take, and iPhone video for 2nd take (4:05)
  Longer pause on first
  Slightly different feet
  Feet almost identical

DAVID SCHOTZKO
02/05/12
Stout 1st
Sixth File MOV006.MOD (0:34)
Initial Notes from Live Performance:
  Reading/partially memorized
  Prep first
  Slight facial movements, eyebrow raise and look up at music
Left foot came up-weight shifted to right  
Quick pace  
Slow section-watched music-facial movements-furrowed brow

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Stationary  
Small foot work  
Step-together  
Weight on right, left foot raised  
Small steps  
Step-together  
Slight torso movement

Stout 2nd
Sixth File MOV006.MOD (2:14)
Initial Notes from Live Performance:
Same mallet prep  
Positioned for second phrase  
Feet pretty stationary  
Slight weight shift  
Slight slides to either side  
Smile  
Slow part-watched music-slight face movements  
Looked determined

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Left foot in front  
Slight weight shifts  
Head moved in direction of line  
Left foot raised  
Step-together  
Smile  
Torso strong-no extra arm, upper, head

Comparison of Stout 1st and 2nd (1st viewing of videos)
Sixth File for 1st take MOV006.MOD (0:34), and iPhone video for 2nd take (2:14)
Mostly same feet  
Different takes  
Same start and ending  
Minimal torso, head, no extra arm

DAVID SCHOTZKO
02/05/12
Bach 1st
Seventh File MOV007.MOD (0:33)
Initial Notes from Live Performance:
Mallet preps  
Reading  
Slight release with fingers for big chords and slow upward releases  
Careful  
Slight steps-weight shifts
Slight mouth movements
Smile
Eyebrow raise/smile
Mouth movements
End of scalar passage-pause-big raise
to faster tempo
Low note and last note-bigger release

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**

Loose wrists (especially left) on release on chords
Small steps-together
Narrow stance
Step-slid other foot together
Left elbow out to get bass in chord
Smile
Angled body position for chords
Eyebrows
Raised mallets slow at end chords
Loose wrists in bass

**Bach 2nd**

Seventh File MOV007.MOD (3:35)

Initial Notes from Live Performance:

Little mallet preps
Big breath
Smile
Slight shuffles in feet
Eyebrow
Slide-weight on one foot
Elbow out to position for big chords
Arpeggios-elbow in-out-eyebrows
Last chords-big-left wrist relaxed even arched a few times and to side

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**

Abrupt mallet raise
Positioned elbow/arm for chords
Loose wrist, especially bass
Small steps-together
Step-slid other foot
Elbow out in bass
Eyebrows
Step-together

**Comparison of Bach 1st and 2nd (1st viewing of videos)**

Seventh File for 1st take MOV007.MOD (0:33), and iPhone video for 2nd take (3:35)

Same arms/legs at end chords
Different tempo, sometimes hard to synch
Mostly same feet positions

DAVID SCHOTZKO
02/05/12
Abe 1st
Eighth File MOV008.MOD (0:57)
Initial Notes from Live Performance:
   Positioned carefully before started
   Weight on right foot
   Step down and slide before low end
   Determined on low, loud, big chords
   Face movements on volume
   Big chord-pause-mallets up and sustained
   Step down-step together to low end of marimba
   Sniff before last couple big/loud chords

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Stationary
   Reading
   Feet together
   Arms in and out
   Step-slide
   Step down-not huge leap
   Determined on bass chord
   Weight on right foot
   Arms/mallets up-quick release
   Left foot back
   Step-together
   Mallets up high at end

Abe 2nd
Eighth File MOV008.MOD (2:57)
Initial Notes from Live Performance:
   Mallet preps
   Watched hands this time instead of music in opening
   Lots of elbows on big chords
   Leap-slide up
   Small steps to side on way down
   Weight on one foot
   Careful at last rock section
   Big raise at end of roll section before ending

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Reading
   Small step together
   Not big step down
   Big step up and slide
   Feet together
   Weight shifts
   Leaned in
   Eyebrows
   Step-together-down the marimba
   Leaned forward for big stretch
   Mallets up at end
Comparison of Abe 1st and 2nd (1st viewing of videos)
Eighth File for 1st take MOV008.MOD (0:57), and iPhone video for 2nd take (2:57)
  Slight different feet a few times
  Mostly identical feet

DAVID SCHOTZKO
02/05/12
David Lang, “String of Pearls” 1st
Ninth File MOV009.MOD (0:42)
Initial Notes from Live Performance:
  No music stand
  Determined-feet in one place
  Face movement on difficult move
  Shoulder abrupt raise
  Step side and together and again
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Feet narrow stance
  Small steps-weight shifts
  Step-together
  Body position to slight diagonal
Lang 2nd
Ninth File MOV009.MOD (2:05)
Initial Notes from Live Performance:
  Mallets right down to instruments
  Smile
  Slight foot shifts/steps
  Step-slide
  Head shakes-back and forth with arms
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Feet narrow stance
  Stationary-not much movement
  A few small steps-weight shifts
  Step-together
  Torso movement side to side with rhythm
Comparison of Lang 1st and 2nd (1st viewing of videos)
Ninth File MOV009.MOD (0:42) for 1st take, and iPhone video for 2nd take (2:05)
  Mostly identical
  Same feet, stance, body positions

JOËL CORMIER
02/05/12
Stout 1st
First File MOV001.MOD (0:28)
Initial Notes from Live Performance:
  Reading music
Stationary feet in opening
  Small steps to sides
Leaned down, head forward
Weight on top foot
Big lunge down
On way down marimba small steps
Step slide
Shifted weight, hips back and forth

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**
- Stationary feet
- Head and slight torso movement
- Small steps
- Lunge, weight shifts
- Step-slide
- Smile
- Head forward on slow part
- Leans, used hips to sway

**Stout 2nd**

**First File MOV001.MOD (2:24)**

**Initial Notes from Live Performance:**
- Head with direction of melodic line
- Smiled
- Head with little cute riffs
- Step, elbow out
- Step lunge-step-side-step-side
- Elbows in and out

**Video Notes (1st viewing without looking at Initial Notes from Live Performance)**
- Body-torso and head with line moving up
- Feet stationary
- Small steps
- Abrupt mallet raises and pause in air
- Lunge and weight shifts
- Head forward, neck craned at same last section slow

**Comparison of Stout 1st and 2nd (1st viewing of videos)**

**First File for 1st take MOV001.MOD (0:28), and iPhone video for 2nd take (2:24)**
- Mostly identical
- Slightly different stepping patterns-mostly same
- Difficult to synch
- Same head/neck crane, same torso movement
- Same end pose

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**JOËL CORMIER**

02/05/12

Bach 1st

**Second File MOV002.MOD (0:28)**

**Initial Notes from Live Performance:**
- Leaned forward, body with direction
- Step together
- Weight shifts
Stationary
Lifted bottom foot when mallets went high in range
Step, slight
Stepped under resonators
Weight on right foot
Then left, slowly shifted to right
Abrupt lifts
Left hand to side on release
Not high releases
Subtle end-roll

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Lean forward, head forward
Slight feet movements step-together, weight shifts
Crouched, leaned forward
Lifted toe/heel when going to high register
Mostly stationary
Sideways body position to angle for chord
Abrupt mallet raises at last chords
Sideways, elbows out to position for chord

Bach 2nd
Second File MOV002.MOD (3:32)
Initial Notes from Live Performance:
More determined intro
Slow releases on first couple chords
Slight body roll with direction of rolled chords
Step toward high end-step, shift, step, shift, shift, shift
On weight shifts- toe stays down-heel raises
Same abrupt, quick mallet lifts
Shoulders raised after one chord

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Knees bent
Leaned forward
Small footwork, weight shifts
Head with melodic line and torso
Sometimes pointed toe that wasn’t leaned on
Feet together- “1st position” in ballet

Body sideways, elbow out for chord
Wide stance on busy fast passage
Body to side, elbows out, toe pointed
Abrupt mallet raises
Froze at end

Comparison of Bach 1st and 2nd (1st viewing of videos)
Second File for 1st take MOV002.MOD (0:28), and iPhone video for 2nd take (3:32)
Mostly identical
Feet mostly same-more together on second take
Same body positions
First take feet together during fast passage
Same ending
Torso/head mostly same

JOËL CORMIER
02/05/12
Abe 1st
Third File MOV003.MOD (0:34)
Initial Notes from Live Performance:
Burton grip for this excerpt only
Mouth movements
Elbows in and out
Jump to bottom
Careful on soft part
Jump down
Lunge, slide
Power, lots of arm on loud chords
High rolls, weight shifts
Step, together (repeatedly)
From last roll section to last chords, quick-no pause

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Very concentrated-reading
Big leap down
Step up
Small step togethers
Right shoulder up on difficult roll position

Abe 2nd
Third File MOV003.MOD (2:28)
Initial Notes from Live Performance:
Same mouth motion
Same lunge, slide
Same careful
Then determined
Step up, slide
Strong arms on chord, furrowed eyebrows
Bouncy with feet and weight shifts on high chords
Down marimba, mouth movement
Determined on last rolled chords

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Elbows in-out
Big leap down-slide
Step up-weight on right
Small step togethers
Toe point in left
Raised right shoulder on roll
Feet together, down marimba
Lunge for rock out section
Froze with mallets close to bars
Comparison of Abe 1st and 2nd (1st viewing of videos)
Third File for 1st take MOV003.MOD (0:34), and iPhone video for 2nd take (2:28)
  Mostly identical
  Difficult to synch
  Feet mostly same-one difference, going from one end to the other
  Ending exactly same

JOÊL CORMIER
02/05/12
Christian Hebert, “Frere ange” 1st
Fourth File MOV004.MOD (0:33)
Initial Notes from Live Performance:
  Started with hand crossed
  Two independent rolls
  Right hand, thumb up
  Left arm extended out
  Then arms in regular position
  Feet pretty stationary, stepped forward and side to side, in front of each other
  Interesting arm positions-very positioned on some chords
  Thought through mallet positions
  Elbows in and out, body went with chords
  Stepped back
  Leaned forward-shoulder raise-big ending
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
  Sideways-leaned forward
  Very different mallet/arm positions for chords
  Sways
  Small footwork
  Elbow back-out position
  Step in toward marimba-angled to side-changed to other side
  Lots of steps forward-back as opposed to lateral
  On end chords-raised shoulders

Hebert 2nd
Fourth File MOV004.MOD (4:03)
Initial Notes from Live Performance:
  Same position to begin
  Head side to side
  When volume grew, so did body
  Step, slides up marimba
  Furrowed brow, exasperation-gentle-gave up
  Comfortable
  Raised arms/hand to use tips of mallets
  Same body turns and positioning
  Wide stance, slide together
  Loud expressive, stepped toward marimba, then back-contracting
  Arm pose freezes, froze at end
Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Started leaned forward
Head shake a bit
Careful arm/elbow angles for positioning chords and mallets
Torso got into accelerando
Small steps
Slight sway/weight shifts
Stationary, then side angle, then other side, etc.
Wide stance, lean forward on big/loud rolls
Bouncy on end chords

Comparison of Hebert 1st and 2nd (1st viewing of videos)
Fourth File MOV004.MOD (0:33) for 1st take, and iPhone video for 2nd take (4:03)
Beginning and end almost identical
Most same tempo
Mostly same torso/head, slight different
A few different feet positions-not much

BEVERLEY JOHNSTON
02/05/12
Stout 1st
Sixth File MOV006.MOD (0:25)
Initial Notes from Live Performance:
   Head-eyebrows
   Weight on top foot
   Kick
   Mouth open
   Right arm and mallets up high
   Step back, step-slide
   Slow lift of mallets release
   Weight on one foot

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Torso/head movement
   Stationary feet-weight shift-flex, kicks
   Arms/mallets high
   Kick
   Bouncy-head and torso
   Kick
   Mallets slow raise
   Switched toe points

Stout 2nd
Sixth File MOV006.MOD (2:32)
Initial Notes from Live Performance:
   Same determination at beginning
   Smirk
   Laugh
   Raised foot-high mallet raise after rolled chord
   Foot lift
   Step-slide
Slow mallet raise before slow section
Frown
Head shake, side to side
Kick

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Stationary stance
Head/torso
Laugh
Flexed foot
Mallets high with kick
Kick back on bass note
Torso/head bouncy with music
Slow mallet raise

Comparison of Stout 1st and 2nd (1st viewing of videos)
Sixth File for 1st take MOV006.MOD (0:25), and iPhone video for 2nd take (2:32)
Practically identical
Same kicks, footwork, head, torso, mallet raises
Thought I was watching the same take

BEVERLEY JOHNSTON
02/05/12
Bach 1st
Seventh File MOV007.MOD (0:44)
Initial Notes from Live Performance:
   Reading
   Abrupt mallet release
   Frown-lips out-pursed
   Open mouth
   Flowy arms
   Determined face
   Weight shifts
   Melodic line went up and so did eyebrows
   Low note-lean and lifted right arm
   Big right elbow lift
   Chords-arms up slow between chords
   Open mouth-eyebrows up
   Left arm at side
   Right mallets raised up high at end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
   Head up
   Lips frown
   Weight shifts-sway
   Small steps
   Toe points
   Head nods on down beats
   Head gestures
   Kick when weight on other foot
Mallets high on landing chord
Stretching gestures and abrupt raises in end

Bach 2nd
Seventh File MOV007.MOD (3:34)
Initial Notes from Live Performance:
Mouth open
Frown-determined
Lips
Open mouth
Sustained note, arm stretched
Shifts-pointed other toe
Head nodded
Right foot kick-upset
Mallets up high on low chord
Soft-slow movements
Then move abrupt then slow
Head nodded with trill
Slow movements at end

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
Head tilt
Lips frown, determined-upset
Weight shifts-toe points
Head with line
Went back on right heel
Big mallets raise
Abrupt and slow releases on end chords
Expressive end with arms

Comparison of Bach 1st and 2nd (1st viewing of videos)
Seventh File for 1st take MOV007.MOD (0:44), and iPhone video for 2nd take (3:34)
More torso in second take at one section
More torso in first take on another section
Ending identical

BEVERLEY JOHNSTON
02/05/12
Abe 1st
Eighth File MOV008.MOD (0:32)
Initial Notes from Live Performance:
Open mouth
Facial expression
Eyebrows up
Big leap to bottom, sang
Right foot raised
Smile/facial expression
Big mallet height on chord-pause
Step-together to bottom
Low note-head bob
Leaned forward on last independent roll

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
- Lips-concentrated on reading
- Eyebrows
- Big leap
- Head with big bass chords
- Facial expression
- Bouncy on chords
- Head and mallets right raised high final of roll
  ““
- Step-together down
- Head nods on downbeats
- Mallets high in final pose

Abe 2nd
Eighth File MOV008.MOD (2:58)

Initial Notes from Live Performance:
- Bit lip
- Frown
- Jump
- Sang at bottom
- Kick at bottom
- Head with chords
- Facial expressions
- Kick, high mallets
- Big prep before high rolled chords
- Small steps-together to bottom
- Leaned forward
- Beautiful ending pose with mallets

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
- Bit lip-eyebrows-concentrated
- Big leap-mallets in air-high
- Step up-slide
- Head with chords
- Mallets high and froze
- Smiles
- Mallets and froze
- Head with roll change
- Step-together down marimba
- Head on chord changes
- Different end-mallets up-cool thing

Comparison of Abe 1st and 2nd (1st viewing of videos)
Eighth File for 1st take MOV008.MOD (0:32), and iPhone video for 2nd take (2:58)
- Almost identical-just ending different

BEVERLEY JOHNSTON
02/05/12
J.S. Bach, “Ermuntre dich, mein schwacher Geist” 1st
Ninth File MOV009.MOD (0:31)
Initial Notes from Live Performance:
- Eyebrows up
- Open mouth
- Weight shifts
- Body shaking with rolls, head nodding/shaking
- Mouth movements, eyebrows up
- Toe point, weight shifts
- Leaned forward on crunchy position chords
- Leg lift-kick on weight shift
- Shake with rolls
- Stationary feet at end
- Left arm reached down

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
- Eyebrows up-lips open
- Feet stationary, weight shifts-toe points
- Head/torso shook with rolls sometimes
- Bit lip
- Very minimal movement
- Weight shift-toe point, then kick
- Head shake/nod
- Leaned in, head down
- Bit lip
- Leaned forward
- Feet stationary
- Reached down to last chord

J.S. Bach (chorale) 2nd
Ninth File MOV009.MOD (3:54)
Initial Notes from Live Performance:
- Eyebrows up
- Open mouth
- Weight shift
- Head shake/side to side
- Elbows in/out
- Head up softly/slowly, squinting
- Shaking with rolled chords
- Open mouth, enjoying, soft retracting
- Slight sway back and forth on weight shifts
- Eyebrows up
- Reach down, right foot raised

Video Notes (1st viewing without looking at Initial Notes from Live Performance)
- Eyebrows up-lips open
- Head shook a bit
- Weight shift-toe point
- Slow, delicate mallet raise at end of phrase
- Toe point
- Body-torso and head shook with chords rolls
Leaned in, head shake, lean in
Eyebrows up, head shake
Reached to last chord-only shifting feet
Comparison of J.S. Bach (chorale) 1st and 2nd (1st viewing of videos)
Ninth File MOV009.MOD (0:31) for 1st take, and iPhone video for 2nd take (3:54)
  Slightly different torso and head at end of phrase
  Different head timing-same but seconds later
  Kick in first take, just toe raise in second
  Same lean in, body position angles, elbows
  Different head and facial expression
  Raised mallets slower, more expression at end of second take
Appendix 0b: Video and Live Analysis Results

*Bold/Italic text in “Appendix 0b” indicates analysis results after making “Lower” a broader category instead of sub categories (i.e. feet, legs, etc.)

AIYUN HUANG
Stout-Live and Video Results

1\st Take: Overlapping Notes from Live and Video
   Eyebrows
   Open Mouth
   Intense/Concentrated when looking at music

2\nd Take: Overlapping Notes from Live and Video
   Open Mouth when looking at music, concentrated (video), on bass note (live)
   Feet slides

Comparison of Take One and Take Two
   Open Mouth at same time
   Feet moved at same time to same places

Order of Mention in all Takes:
   Open Mouth
   Feet Slides
   Concentrated/Intense/Determined
   Eyebrows

Tally of Take One (Live only)
   Face AND Torso-3 each
   Feet-1

Tally of Take One and Take Two (Live only)
   Face-9
   a. Mouth-2
   b. Eyebrows-2
   c. Concentrated-3
   d. Other
   Torso-3 and Feet-3
   Arms/Mallets-1

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Face-16
   a. Mouth-6
   b. Eyebrows-3
   c. Concentrated-2
   d. Face (other)-3

   Torso-6
   Feet/Lower-5
   Head-2
   Arms/Mallets-1

(Fine as is)
199

**AIYUN HUANG**

**Bach-Live and Video Results**

1st Take: Overlapping Notes from Live and Video
   - Hunched/Leaned forward to see music
   - Mallets high/Large lift after chord
   - Positioned body for chords

2nd Take: Overlapping Notes from Live and Video
   - Body with line of music
   - Mallets high/Big lift with chord
   - Pause/Froze at end

Comparison of Take One and Take Two
   - Difference in leg position
   - Ended with opposite hand/mallets raised
   - Different torso

Order of Mention in all Takes:
   - Mallets raised AND Torso movements
   - Positioned body AND Froze AND Leg position

Tally of Take One (Live only)
   - Feet-4
   - Torso-3
   - Full Body AND Arms/Mallets-2
   - Legs/Knees-1

Tally of Take One and Take Two (Live only)
   - Full Body-7
   - Feet-5
   - Torso-4
   - Arms/Mallets and Head-3 each
   - Legs/Knees and Face-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   - Full Body-10
   - Torso-9
   - Arms/Mallets-7
   - Head-3
   - Legs/Knees-2
   - Face AND Shoulders-1 each
   - \textbf{OR Full Body AND Torso-10 each}
   - \textbf{Arms-7}
   - \textbf{Head-3}
   - \textbf{Lower-2}
   - \textbf{Face-1}

**AIYUN HUANG**

**Abe- Live and Video Results**

1st Take: Overlapping Notes from Live and Video
High mallet height
Mouth open

2nd Take: Overlapping Notes from Live and Video
High mallet height
Slide
Head
Big lift
Mouth open

Comparison of Take One and Take Two
More torso in second take
Open mouth in second take
Same ending pose (held longer in second take)

Order of Mention in all Takes:
Mouth open
Mallet Height
Torso, Slide, Head, Ending pose

Tally of Take One (Live only)
Arms/Mallets-2
Full Body-2
Torso-2
Face-2
Feet-1

Tally of Take One and Take Two (Live only)
Full Body AND Torso-4 each
Arms AND Feet-3 each
Legs/Knees AND Mouth AND Feet-2 each
Head-1

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Arms AND Torso-9 each
Body AND Mouth AND Feet-5 each
Head-3
Face AND Legs/Knees-2 each

OR Arms AND Torso-9
Face AND Lower-7
Body-5
Head-3

AIYUN HUANG
Rednote- Live and Video Results

1st Take: Overlapping Notes from Live and Video
None

2nd Take: Overlapping Notes from Live and Video
Octopus-like
Body rolls

Comparison of Take One and Take Two
Ending pose held longer second take

Order of Mention in all Takes:
- Octopus-like AND Body rolls
- Slides
- Full Body
- Feet, Torso
- Arms, Face
- Head

Tally of Take One (Live only)
- Torso-1
- Arms/Mallets-1
- Feet-1

Tally of Take One and Take Two (Live only)
- Torso AND Arms AND Face-2 each
- Feet AND Body AND Head-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
- Full Body-4
- Feet/Lower AND Torso-3 each
- Arms AND Face-2 each
- Head-1

(Fine as is)

GINNY ARMSTRONG

Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
- Smiled/laughed
- Rigid Upper Body
- Step-Slide

2nd Take: Overlapping Notes from Live and Video
- Rigid Upper Body

Comparison of Take One and Take Two
- Almost identical
- Barely anything that stands out as different
- Looking in top range with chords both times

Order of Mention in all Takes:
- Rigid Upper Body
- Step-Slide
- Laugh/Smile

Tally of Take One (Live only)
- Feet-4
- Body-2
- Face AND Torso AND Arms AND Shoulders-1 each

Tally of Take One and Take Two (Live only)
- Feet-6
- Body-4
Torso-3
Arms AND Face-2 each
Shoulders-1
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-12
Torso-6
Body-5
Face AND Arms-3 each
Elbows-1
OR Lower-12
Torso-6
Body-5
Arms-4
Face-3

GINNY ARMSTRONG
Bach-Live and Video Results

1<sup>st</sup> Take: Overlapping Notes from Live and Video
   Positioned Upper Body/Arms
   Mallets High after Chords
2<sup>nd</sup> Take: Overlapping Notes from Live and Video
   Lips
   Small Steps/Shifts
   Body Ripple with Ripple Roll
   Mallets High after Chords
Comparison of Take One and Take Two
   Almost Identical
   One might have slightly more torso or head at certain times
   Mallet lifts on last chord section were identical
Order of Mention in all Takes:
   Mallets High after Chords
   Lips
   Small Steps/Shifts AND Body Ripple AND Positioning AND Torso/Head
Tally of Take One (Live only)
   Torso-4
   Feet AND Face (lips) AND Mallets/Arms AND Head-1 each
Tally of Take One and Take Two (Live only)
   Torso and Face (lips)-4 each
   Head and Feet-3 each
   Mallets/Arms-2
   Body-1
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Torso AND Mallets/Arms-8 each
   Face (lips) AND Feet/Lower-5 each
Head-4
Body-1
*(Fine as is)*

**GINNY ARMSTRONG**

**Abe-Live and Video Results**

1\textsuperscript{st} Take: Overlapping Notes from Live and Video
- Rigid
- Big Mallet Raises
- Mallets Up High

2\textsuperscript{nd} Take: Overlapping Notes from Live and Video
- Leaned forward/hunched to start
- Small Steps
- Big Mallet Raise after Chords
- Lips
- Mallets Up
- Leaned on last roll

Comparison of Take One and Take Two
- Identical although slightly different tempo in some sections
- Mallets raised same
- Starting/Ending position same

Order of Mention in all Takes:
- Mallets raised
- Leaned forward/hunched
- Lips AND Rigid AND Small Steps

Tally of Take One (Live only)
- Feet-2
- Arms/Mallets-4
- Body-6

Tally of Take One and Take Two (Live only)
- Feet-2
- Arms/Mallets-6
- Body-7
- Torso-1
- Lips-1

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
- Arms/Mallets-12
- Body-9
- Feet-7
- Torso-5
- Lips AND Elbows-2 each

*OR Arms-14
Body-9
Lower-7
Torso-5*
**Face-2**

**GINNY ARMSTRONG**  
Villo Lobos-Live and Video Results

1st Take: Overlapping Notes from Live and Video  
Shifted Weight  
Elbows Out  
Lean Forward-elbows out  
Mallet pose/angle at end

2nd Take: Overlapping Notes from Live and Video  
Shifts  
Leaned forward  
Shoulders Up  
Leans  
Elbows/Arms out

Comparison of Take One and Take Two  
Almost identical  
Same mallet heights, flicks  
Same positioning with body

Order of Mention in all Takes:  
Lean forward-elbows/arms out  
Shifts  
Mallet pose, angles  
Body positioning

Tally of Take One (Live only)  
Lips-1  
Feet (weight shifts)-1  
Torso-2  
Mallets/Arms-3  
Elbows-2  
Body-1

Tally of Take One and Take Two (Live only)  
Feet-5  
Torso-3  
Arms/Mallets-2  
Shoulders AND Lips AND Buttocks-1 each

Tally of Take One and Take Two (Live and Video and Comparison)  
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY  
Torso-10  
Feet-9  
Elbows-8  
Arms/Mallets-6  
Shoulders AND Lips-2  
Buttocks AND Body AND Hips-1 each  
**OR Arms-14**  
**Torso-12**
TOM BURRITT
Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
  Eyebrows
  Head
  Rigid
  Lean
  Steps

2nd Take: Overlapping Notes from Live and Video
  Eyebrows
  Lean

Comparison of Take One and Take Two
  Mostly identical
  Different tempo, rubato
  Ended same, began same

Order of Mention in all Takes:
  Eyebrows AND Lean
  Head AND Rigid AND Steps

Tally of Take One (Live only)
  Face AND Torso-2 each
  Head AND Feet-1 each

Tally of Take One and Take Two (Live only)
  Face-5
  Torso-4
  Feet-3
  Head-1

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
  Feet/Lower-12
  Torso-8
  Face-7
  Head-3
  Body-2
  (Fine as is)

TOM BURRITT
Bach-Live and Video Results

1st Take: Overlapping Notes from Live and Video
  Eyebrows
  Steps
  Mallets/Arms down at end
2nd Take: Overlapping Notes from Live and Video
   Eyebrows
   Steps
   Head
   Step-Slides
   Resistance-end chords
   Upset at end

Comparison of Take One and Take Two
   More bent over in first take
   One foot different
   Mostly identical
   Same beginning and ending

Order of Mention in all Takes:
   Steps
   Eyebrows
   Mallets/arms
   Head AND Upset

Tally of Take One (Live only)
   Arms/Mallets-5
   Face AND Body-3 each
   Feet-2
   Sniff-1

Tally of Take One and Take Two (Live only)
   Feet-10
   Face-6
   Arms/Mallets-5
   Body-4
   Head-2
   Sniff-1

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Feet-15
   Arms/Mallets-12
   Face-10
   Torso AND Body-4 each
   Head-3
   Wrist AND Sniff-1 each
   OR Lower-15
   Arms-13
   Face-10
   Torso AND Body-4
   Head-3
   Sniff-1

TOM BURRITT
Abe- Live and Video Results
1st Take: Overlapping Notes from Live and Video
   Determination
   Little steps
   Fluid/Lyrical
   Big step/jump down
   Small steps
   Mallets down at end
2nd Take: Overlapping Notes from Live and Video
   Eyes/Eyebrows
   Feet
   Head forward/down
Comparison of Take One and Take Two
   Different tempo
   1st time didn’t position self same at end-further toward middle
Order of Mention in all Takes:
   Feet
   Eyebrows/Determination
   Head AND Mallets AND Fluid/Lyrical
Tally of Take One (Live only)
   Feet-4
   Face-3
   Body AND Arms-2 each
Tally of Take One and Take Two (Live only)
   Face AND Feet-7 each
   Arms-3
   Body AND Sniff-2 each
   Head-1
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Feet-20
   Face-10
   Arms-6
   Elbows AND Head-4 each
   Body-2
   Torso-1
   OR Lower-20
   Face AND Arms-10
   Head-4
   Body-2
TOM BURRITT
Sery- Live and Video Results

1st Take: Overlapping Notes from Live and Video
   Lunge
   Steps
Mallets almost looked like “falling off” bars

2nd Take: Overlapping Notes from Live and Video
- Lunge
- Steps
  Mallets almost looked like “falling off” bars
Body/Elbow positions for chord

Comparison of Take One and Take Two
- Almost identical
- Body position different once
- Same mood, angles, etc.
- Same begin and end
- Mostly same tempo

Order of Mention in all Takes:
- Lunge AND Steps AND Mallets “falling off bars”
- Body/Elbow position for chords

Tally of Take One (Live only)
- Arms/Mallets-3
- Feet AND Legs/Lunge AND Sniff AND Body-1

Tally of Take One and Take Two (Live only)
- Arms/Mallets-4
- Feet-3
- Legs/Lunge-3
- Body-2
- Knees AND Sniff-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
- Arms/Mallets-9
- Feet-7
- Legs/Lunge-6
- Body-5
- Head AND Elbows AND Face-2 each
- Knees AND Sniff AND Torso-1 each

**OR Lower-14**
- Arms-11
- Body-5
- Head AND Face-2
- Torso AND Sniff-1

**PIUS CHEUNG**

**Stout-Live and Video Results**

1st Take: Overlapping Notes from Live and Video
- Slide
- Left Foot Raise

2nd Take: Overlapping Notes from Live and Video
- Head
- Flowy
“Sat” on chord

Comparison of Take One and Take Two
- Movement very similar - legs, head, torso, feet
- Tempo different
- More lean with torso at end of 2nd take

Order of Mention in all Takes:
- Feet
- Torso AND Head
- Legs AND “Sat” on chord

Tally of Take One (Live only)
- Feet-2
- Body AND Wrist AND Arms AND Elbows-1 each

Tally of Take One and Take Two (Live only)
- Body-4
- Torso AND Feet-2 each
- Wrist AND Arms AND Elbows AND Head AND Face-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
- Feet-10
- Body-6
- Head-5
- Torso-4
- Wrist AND Arms AND Elbows AND Face AND Legs-1 each
  
  **Lower-11**
  **Body-6**
  **Head-5**
  **Torso-4**
  **Arms-3**
  **Face-1**

**PIUS CHEUNG**

**Bach - Live and Video Results**

1st Take: Overlapping Notes from Live and Video
- Face
- Eyebrows
- Flowy
- Slow
- Stood
- Leaned into Chords

2nd Take: Overlapping Notes from Live and Video
- Head
- Arms
- Leaned
- Big leans into Chords

Comparison of Take One and Take Two
- Feet different - more movement in 2nd take
Tempo different
Then feet same
Head/torso slightly different-mostly same

Order of Mention in all Takes:
Leans
Face/Eyebrows
Feet
Head
Arms AND Flowy AND Slow

Tally of Take One (Live only)
Face AND Body-3 each
Arms-2
Feet-1

Tally of Take One and Take Two (Live only)
Face-7
Body-5
Arms-3
Feet AND Torso-2 each
Head AND Sniff-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-12
Body-11
Torso AND Face-9 each
Head-6
Arms-5
Elbows-2
Sniff-1

OR Lower-12

Body-11
Torso AND Face-9
Arms-7
Head-6
Sniff-1

PIUS CHEUNG
Abe- Live and Video Results

1st Take: Overlapping Notes from Live and Video
Raised foot/feet
Jump
Change at low end
Lean
“Sat on” chord
Huge arms/mallets raise
Feet

2nd Take: Overlapping Notes from Live and Video
Lean  
Bouncy  
Face-eyebrows  
“Sat on chords”  
Stood, sat  

Comparison of Take One and Take Two  
Almost identical  
Slight different feet but usually same  
Head, torso, feet, slides, body position  
Tempo very similar  

Order of Mention in all Takes:  
Lean  
“Sat on Chord”  
Feet  
Stood/Sat/Jump  
Face/Eyebrows AND Bouncy AND Arms/Mallets AND Change at low end  

Tally of Take One (Live only)  
Body-4  
Feet AND Arms-2 each  
Face AND Torso AND Breath-1 each  

Tally of Take One and Take Two (Live only)  
Body-8  
Feet-4  
Arms-2  
Torso AND Face-2 each  
Breath-1  

Tally of Take One and Take Two (Live and Video and Comparison)  
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY  
Feet-12  
Body-11  
Arms AND Head AND Torso-5 each  
Face-2  
Legs/Lunge AND Breath-1 each  
OR Lower-13  
Body-11  
Arms AND Head AND Torso-5  
Face-2  
Breath/ Sniff-1  

PIUS CHEUNG  
Cheung- Live and Video Results  

1st Take: Overlapping Notes from Live and Video  
Head Shakes  

2nd Take: Overlapping Notes from Live and Video  
Head  
Small Steps
Head Shakes
Toe points/flexes

Comparison of Take One and Take Two
Mostly same tempo, and also mostly same torso, head, feet, slides
A few slight differences in feet at end-ending leg position different

Order of Mention in all Takes:
Head Shakes/Head
Feet/Small Steps/Toes

Tally of Take One (Live only)
Body AND Face-2 each
Hand AND Head AND Torso-1 each

Tally of Take One and Take Two (Live only)
Head-5
Body AND Face AND Feet-2 each
Breath AND Hand, AND Torso-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-15
Head-9
Face-4
Body AND Elbows AND Torso-2 each
Arms AND Breath AND Hand-1 each

OR Lower-15
Head-9
Face AND Arms-4
Body AND Torso-2
Breath/Sniff-1

AYANO KATAOKA
Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
Kick
Left Foot Raise
Kick
Steps
Head

2nd Take: Overlapping Notes from Live and Video
Foot
Flowy arms/elbows

Comparison of Take One and Take Two
Mostly same
A few different kicks in different places
Slightly more movement on second take
Leaned over more at end of first take

Order of Mention in all Takes:
Kicks
Feet
Head AND Flowy Arms/Elbows
Torso
Tally of Take One (Live only)
  Feet-7
  Head AND Face-1 each
Tally of Take One and Take Two (Live only)
  Feet-10
  Body AND Arms AND Face-2 each
  Head-1
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
  Feet-22
  Head-4
  Torso AND Arms-3 each
  Body AND Face-2 each

AYANO KATAOKA
Bach-Live and Video Results

1st Take: Overlapping Notes from Live and Video
  Steps
  Weight Shifts
  Feminine/Horse-like stance
  Left foot kicks with body position change
  Left foot kicks

2nd Take: Overlapping Notes from Live and Video
  Careful/Gentle
  Steps
  Left kicks/raises
  Left kicks/raises

Comparison of Take One and Take Two
  Almost identical
  A few different foot movements and foot positions
  Same mallet height and identical at end chords

Order of Mention in all Takes:
  Feet-kicks
  Feet-Steps
  Feet-Weight Shifts, Positions (Horse-like)
  Careful/Gentle AND Mallet height

Tally of Take One (Live only)
  Feet-5
  Arms-3
  Legs/Pose AND Face AND Sniff-1 each
Tally of Take One and Take Two (Live only)
  Feet-10
  Arms-4
Legs/Pose AND Sniff - 2 each
Face AND Body AND Shoulders - 1 each

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet - 23
Arms - 8
Body - 5
Legs/Pose - 3
Head AND Sniff - 2 each
Face AND Shoulders AND Elbows - 1 each
Lower - 26
Arms - 10
Body - 5
Head AND Sniff - 2
Face - 1

AYANO KATAOKA
Abe - Live and Video Results

1st Take: Overlapping Notes from Live and Video
Lean
Head
Head
Strong end/Freeze

2nd Take: Overlapping Notes from Live and Video
Slide/Leap
Feet Apart-Together
Head
Feet Apart-Together

Comparison of Take One and Take Two
 Mostly same tempo
 Almost identical, a few different head and feet movements

Order of Mention in all Takes:
Feet and Head
Lean and Strong End/Freeze

Tally of Take One (Live only)
Head AND Elbows - 2 each
Shoulders AND Torso AND Body - 1 each

Tally of Take One and Take Two (Live only)
Feet - 5
Head - 4
Arms AND Elbows AND Body - 2 each
Shoulders AND Torso AND Face - 1 each

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet - 16
Head - 8
Torso-6
Elbows AND Body-3 each
Legs/Pose AND Shoulders AND Arms-2 each
Face-1 each
**OR Lower-18**
*Head*-8
*Arms*-7
*Torso*-6
*Body*-3
*Face*-1

AYANO KATAOKA
Smith- Live and Video Results

1<sup>st</sup> Take: Overlapping Notes from Live and Video
   Head
2<sup>nd</sup> Take: Overlapping Notes from Live and Video
   Head
   Kick
   Pause/Froze at end
Comparison of Take One and Take Two
   Almost identical
   Slight difference in torso/arms before last chord
   Same kick and awkward arm position
Order of Mention in all Takes:
   Head
   Kick
   Arms
   Torso
   Pause/Freeze at end
Tally of Take One (Live only)
   Elbows AND Arms AND Face AND Head-1 each
Tally of Take One and Take Two (Live only)
   Body-4
   Head AND Arms-2 each
   Feet AND Face AND Elbows-1 each
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Arms-8
   Body-7
   Head-5
   Feet-4
   Torso-2
   Face AND Elbows-1 each
   **Arms**-9
   **Body**-7
   **Head**-5
**DOUG PERKINS**

**Stout-Live and Video Results**

1st Take: Overlapping Notes from Live and Video
- Slight Kick
- Feet together-apart, together
- Steps

2nd Take: Overlapping Notes from Live and Video
- Steps-out-in
- Feet together

Comparison of Take One and Take Two
- Mostly same
- A few different step-togethers-feet position
- Tempo similar

Order of Mention in all Takes:
- Feet together
- Steps
- Slight Kick

Tally of Take One (Live only)
- Feet-6
- Face-1

Tally of Take One and Take Two (Live only)
- Feet-9
- Face-3

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
- Feet-31
- Face-3
- Head-2
- Torso-1

**OR Lower-31**
- Face-3
- Head-2
- Torso-1

**DOUG PERKINS**

**Bach-Live and Video Results**

1st Take: Overlapping Notes from Live and Video
- Side step/Step togethers
- Loose/flowy wrists
- Careful
- On toes at times
2nd Take: Overlapping Notes from Live and Video
  Raises with body, mallets, head, shoulders
  Concentration. Determination
  Kicks
  Step togethers
  Angled body
  Strong/aggressive chords
Comparison of Take One and Take Two
  Mostly identical
  A few different mallet heights toward end
  Same ending pose
  A few different kicks and step togethers
Order of Mention in all Takes:
  Step-togethers
  Mallets/Arms (chords, mallet height)
  Body-ending pose, raises with body, angled body
  Kicks
  Feet-side step, on toes at times
  Concentration, determined, careful
  Loose/flowy wrists

Tally of Take One (Live only)
  Feet AND Arm AND Face-3 each
  Body-2
  Wrist-1
Tally of Take One and Take Two (Live only)
  Feet-7
  Arm AND Face-4 each
  Body-2
  Wrist AND Elbow AND Shoulders AND Head-1 each
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
  Feet-25
  Arms-9
  Body AND Face-6 each
  Wrists-4
  Elbow AND Shoulder AND Head AND Torso-1 each
  \textbf{OR Lower-25}
  \textbf{Arms-15}
  \textbf{Body AND Face-6}
  \textbf{Head AND Torso-1}

\textbf{DOUG PERKINS}

\textbf{Abe- Live and Video Results}

1st Take: Overlapping Notes from Live and Video
  Step-together
Big leap/jump
Facial Expression
End with one arm at chest

2nd Take: Overlapping Notes from Live and Video
Small/little steps
Determined/upset
Weight on left foot, right foot raised

Comparison of Take One and Take Two
Almost identical
Slightly different tempo
Feet position similar
Mallets to side at end same

Order of Mention in all Takes:
Feet-Step-together, small/little steps, weight on left foot, right foot raised
Mallets/Arms at end
Facial expression, determined/upset
Big leap/jump

Tally of Take One (Live only)
Feet-7
Knees AND Face AND Arms-1 each

Tally of Take One and Take Two (Live only)
Feet-11
Knees AND Face AND Arms-2 each

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-28
Arms-6
Face-4
Body AND Knees-2 each
Elbows-1

**OR Lower-30**

**Arms-7**
**Face-4**
**Body-2**

**DOUG PERKINS**

Harchanko- Live and Video Results

1st Take: Overlapping Notes from Live and Video
Determined look
Fairly stationary/planted

2nd Take: Overlapping Notes from Live and Video
Big stroke/high mallet height
Shifty
Lunge
Wide stance/big step out

Comparison of Take One and Take Two
Mostly same
Slightly different tempo
A few noticeable differences in stance (feet apart vs. together)

Order of Mention in all Takes:
Feet- stance, stationary/planted, shifts, lunge, wide stance/big step out
Big stroke/high mallet height AND Determined

Tally of Take One (Live only)
Feet AND Face AND Arms-1 each

Tally of Take One and Take Two (Live only)
Feet AND Arms-5 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-22
Arms-10
Face AND Torso-2 each
Knees-1

__OR Lower-23
Arms-10
Face AND Torso-2

NAOKO TSUJITA
Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
Weight on right foot/left toe pointed
Small/slight steps
Head
Eyebrow
Slide
Toe points

2nd Take: Overlapping Notes from Live and Video
Slight weight shifts
Head
Weight shifts
Lifted leg
Kick

Comparison of Take One and Take Two
Almost identical
Same stance
One foot different
Mostly same feet
Went back on heel of boot at same time
Same torso
Slightly different leg/position at end, feet

Order of Mention in all Takes:
Feet-weight shifts, toe points, steps, slides, stance, kicks, heel of boot, leg lift
Head
Eyebrow AND Torso

Tally of Take One (Live only)
- Feet AND Face-4 each
- Head AND Arms-1 each

Tally of Take One and Take Two (Live only)
- Feet-9
- Face-4
- Head AND Arms-2 each
- Legs-1

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
- Feet-27
- Head AND Face-5 each
- Arms AND Torso-4 each
- Legs AND Body-1 each

OR Lower-28

Head AND Face-5
Arms AND Torso-4
Body-1

NAOKO TSUJITA
Bach-Live and Video Results

1st Take: Overlapping Notes from Live and Video
- Shoulder raises
- Slight foot movements
- Slow-moving gestures-chords
- Head
- Loose/relaxed wrist
- Positioned for chords
- Loose/relaxed/flowy arms
- Mallets-side at end

2nd Take: Overlapping Notes from Live and Video
- Loose/relaxed/elegant/flowy arms/wrists
- Mallets high/vertical

Comparison of Take One and Take Two
- Slightly different feet
- Different stance and feet a few times
- Same head and leans
- End chords at last note-same

Order of Mention in all Takes:
- Arms- loose/relaxed/flowy, end chords, slow, mallets high, shoulders
- Feet-foot movements, stance, different feet a few times in take 1 and 2

Tally of Take One (Live only)
- Feet-8
- Arms-5
- Face AND Body-3 each
Head-2
Shoulder-1

Tally of Take One and Take Two (Live only)
Arms-10
Feet-8
Face AND Body-6 each
Sniff/Breath-3
Head-2
Shoulder AND Wrist AND Torso-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Arms-22
Feet-19
Body-9
Face-6
Head-4
Wrist AND Elbow AND Sniff AND Torso AND Shoulder-3

OR Arms-31
Lower-19
Body-9
Face-6
Head-4
Sniff AND Torso-3

NAOKO TSUJITA
Abe- Live and Video Results

1st Take: Overlapping Notes from Live and Video
Small foot movements/slight steps
Big slide/leap/lunge
Steps
Head
Mallets high/head level and above head
Mallets in air at end

2nd Take: Overlapping Notes from Live and Video
Step side-step together
Head
Mallet raise
Mallets up at end

Comparison of Take One and Take Two
Almost identical
Feet position and head same
Slight different tempo

Order of Mention in all Takes:
Feet-slight steps, slide, steps, step togethers, feet position
Arms-mallets high/head level, mallets up, mallet raise, mallets up at end
Head
Tally of Take One (Live only)
  Feet AND Arms-4
  Face-2
  Head AND Body-1 each

Tally of Take One and Take Two (Live only)
  Feet AND Arms-7 each
  Face-5
  Head-3
  Body AND Sniff-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
  Feet/Lower-22
  Arms-16
  Head-7
  Face-5
  Body-3
  Torso AND Sniff-1
  (Fine as is)

NAOKO TSUJITA
Muranatsu- Live and Video Results

1st Take: Overlapping Notes from Live and Video
  Step-slide
  Small steps
  Weight shifts
  Arms-chords

2nd Take: Overlapping Notes from Live and Video
  Step-slide
  Pause-mallets up
  Loose wrists
  Weight shifts
  Kick
  Heel of boot/toe raise
  Shoulder raise

Comparison of Take One and Take Two
  Longer pause on first take
  Slightly different feet
  Feet almost identical

Order of Mention in all Takes:
  Feet-step/slide, weight shifts, small steps, kick, heel of boot/toe raise
  Arms-chords, pause-mallets up, loose wrists, shoulder raise

Tally of Take One (Live only)
  Feet-6
  Arms-4
  Sniff-2
  Face-1
Tally of Take One and Take Two (Live only)
   Feet-15
   Arms-8
   Head-5
   Face AND Sniff-2 each
   Shoulders AND Torso AND Wrist-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Feet-42
   Arms-13
   Head-7
   Body-6
   Shoulders-3
   Wrist AND Face AND Sniff-2 each
   Torso-1

   OR Lower-42
   Arms-18
   Head-7
   Body-6
   Face AND Sniff-2
   Torso-1

DAVID SCHOTZKO
Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
   Weight shifts

2nd Take: Overlapping Notes from Live and Video
   Weight shifts
   Smiles

Comparison of Take One and Take Two
   Mostly same feet
   Same start and end
   Minimal torso, head, no extra arm

Order of Mention in all Takes:
   Weight shifts, feet
   Smile
   Minimal torso, head, no extra arm

Tally of Take One (Live only)
   Face-7
   Feet-2
   Arms-1

Tally of Take One and Take Two (Live only)
   Face-11
   Feet-6
   Arms-2
   Body-1
Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY

Feet/\textit{Lower}-19  
Face-12  
Arms AND Body-2  
Torso AND Head-1  
\textit{(Fine as is)}

DAVID SCHOTZKO  
Bach-Live and Video Results

1\textsuperscript{st} Take: Overlapping Notes from Live and Video  
Small/slight steps  
Smile  
Eyebrows  
Mallet raise

2\textsuperscript{nd} Take: Overlapping Notes from Live and Video  
Positioned arms for chords  
Loose wrist, especially left  
Slide  
Elbow out-positioning  
Eyebrows  
Step together/shuffles

Comparison of Take One and Take Two  
Same arms/legs at end chords  
Different tempo, sometimes hard to synch  
Mostly same feet positions

Order of Mention in all Takes:  
Feet-small steps, slide, step togethers/shuffles, legs, feet position AND  
Arms-mallet raise, positioned arms for chords, loose wrist, elbow out, arms  
Face-eyebrows, smile, eyebrows

Tally of Take One (Live only)  
Face-8  
Arms-6  
Feet-2

Tally of Take One and Take Two (Live only)  
Arms AND Face-11 each  
Feet-5  
Sniff/Breath-1

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY  
Arms-20  
Feet/\textit{Lower}-18  
Face-13  
Body-2  
Sniff/Breath-1  
\textit{(Fine as is)}
DAVID SCHOTZKO
Abe- Live and Video Results

1st Take: Overlapping Notes from Live and Video
   Step, slide
   Step down
   Determined on bass chords
   Weight on right foot
   Arms/mallets up

2nd Take: Overlapping Notes from Live and Video
   Big step/leap
   Slide
   Step-together
   Weight shifts
   Mallets up

Comparison of Take One and Take Two
   Slight different feet a few times
   Mostly identical feet

Order of Mention in all Takes:
   Feet-step, slide, step down, weight on right foot, big step/leap
   Arms-mallets up, mallets up at end
   Face-determined on bass chord

Tally of Take One (Live only)
   Feet-5
   Face AND Arms-2 each
   Body AND Sniff-1 each

Tally of Take One and Take Two (Live only)
   Feet-9
   Arms-5
   Face-4
   Elbows-2
   Body AND Sniff-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY

Feet-28
Arms-10
Face-8
Elbows AND Torso AND Body AND Sniff-1 each

OR Lower-28
Arms-11
Face-8
Torso AND Body AND Sniff-1

DAVID SCHOTZKO
Lang- Live and Video Results
1st Take: Overlapping Notes from Live and Video
   Feet in one place/narrow stance
   Step togethers
2nd Take: Overlapping Notes from Live and Video
   Slight steps
Comparison of Take One and Take Two
   Mostly identical
   Same feet, stance, body positions
Order of Mention in all Takes:
   Feet-stationary/narrow stance, step togethers, slight steps, stance
Tally of Take One (Live only)
   Feet-5
   Face-2
   Shoulder-1
Tally of Take One and Take Two (Live only)
   Feet-11
   Face-3
   Arms-2
   Shoulder AND Head-1
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Feet-34
   Body AND Face-3
   Shoulders AND Arms-2
   Head AND Torso-1
   OR Lower-34
   Body AND Face-3
   Arms-4
   Head AND Torso-1

JOËL CORMIER
Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
   Stationary Feet
   Head forward
   Torso movement
   Small steps
   Lunge
   Weight shifts
   Step slide
   Leans
   Hips
2nd Take: Overlapping Notes from Live and Video
   Head with direction of musical line
   Steps
   Lunge
Comparison of Take One and Take Two
   Mostly identical
   Slightly different stepping patterns-mostly same
   Difficult to synch
Order of Mention in all Takes:
   Feet-stationary feet, small steps, lunge, weight shifts, step slides
   Head
   Torso
   Hips
Tally of Take One (Live only)
   Feet-10
   Hips-2
   Torso AND Head-1 each
Tally of Take One and Take Two (Live only)
   Feet-16
   Head-4
   Elbow-3
   Hips-2
   Torso AND Face-1 each
Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Feet-31
   Head-9
   Torso-5
   Elbow AND Hips AND Face-3 each
   Arms-2
   Body-1
   **OR Lower 34**
   **Head-9**
   **Torso-5**
   **Arms-5**
   **Face-3**
   **Body-1**

**JOËL CORMIER**
**Bach-Live and Video Results**

1st Take: Overlapping Notes from Live and Video
   Lean forward
   Step together
   Weight shifts
   Lifted bottom foot when mallets went to high end
   Stationary
   Abrupt mallet lifts

2nd Take: Overlapping Notes from Live and Video
   Footwork
Weight shifts
Toe points
Abrupt mallet raises

Comparison of Take One and Take Two
Mostly identical
Feet mostly same-more together on second take
Same body positions
First take feet together during fast passage
Same ending
Torso/head mostly same

Order of Mention in all Takes:
Feet-step together, weight shifts, lifted bottom foot, feet work, toe points
Arms-abrupt mallet lifts/raises,
Torso-lean forward, mostly same in both takes
Head AND Body

Tally of Take One (Live only)
Feet-10
Arms-4
Body-3
Torso-1

Tally of Take One and Take Two (Live only)
Feet-18
Arms-8
Body-4
Torso AND Face AND Shoulders-1 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-35
Arms AND Body-11
Torso-6
Head AND Elbows-3
Face AND Shoulders AND Knees-1

OR Lower-36
Arms-15
Body-11
Torso-6
Head-3
Face-1

JOËL CORMIER
Abe- Live and Video Results

1st Take: Overlapping Notes from Live and Video
Concentrated/Careful
Jump/leap
Step togethers

2nd Take: Overlapping Notes from Live and Video
Slide
Step up
Weight shifts
Lunge

Comparison of Take One and Take Two
Mostly identical
Difficult to synch
Feet mostly same-one difference, going from one end to the other
Ending exactly same

Order of Mention in all Takes:
Feet-jump/leap, step togethers, slide, step up, weight shifts, lunge, feet same
Face AND Body-concentrated/careful and same ending

Tally of Take One (Live only)
Feet-10
Face AND Elbows AND Arms-2 each

Tally of Take One and Take Two (Live only)
Feet-18
Face-8
Arms-3
Elbow-2

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-33
Face-9
Arms AND Elbow-4
Shoulder-2
Body-1
OR Lower-33
Arms-10
Face-9

JOËL CORMIER
Hebert- Live and Video Results

1st Take: Overlapping Notes from Live and Video
Lean forward
Different/interesting arm positions
Small foot work
Elbows in-out
Body positions with chord
Step forward
Shoulder raise at end

2nd Take: Overlapping Notes from Live and Video
Head shake
Body/arm positions for chords
Torso
Steps
Wide stance

Comparison of Take One and Take Two
  Beginning and end almost identical
  Most same tempo
  Mostly same torso/head, slight different
  A few different feet positions-not much

Order of Mention in all Takes:
  Feet-small foot work, step forward, steps, wide stance, different positions
  Arms-different/interesting positions, elbows in-out, shoulder raise
  Torso-lean forward, same torso
  Body-body positions with chord, body with chords
  Head-head same

Tally of Take One (Live only)
  Arms-8
  Feet-6
  Body AND Torso AND Shoulder-1

Tally of Take One and Take Two (Live only)
  Feet-15
  Arms-11
  Body-4
  Face-5
  Head-2
  Torso AND Shoulder-1

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
  Feet-26
  Arms-13
  Body-12
  Torso-8
  Face-5
  Head-4
  Elbow-2
  Shoulder-1
  OR Lower-26
  Arms-16
  Body-12
  Torso-8
  Face-5
  Head-4

BEVERLEY JOHNSTON

Stout-Live and Video Results

1st Take: Overlapping Notes from Live and Video
  Head
  Weight shift
  Kick
Arms/mallets high
Slow mallet raise
Weight shift

2nd Take: Overlapping Notes from Live and Video
Head
Laughed
Foot raise
High mallet raise
Foot lift/kick
Kick
Head
Slow mallet raise

Comparison of Take One and Take Two
Practically identical
Same kicks, footwork, head, torso, mallet raises
Thought I was watching the same take

Order of Mention in all Takes:
Feet-weight shifts, kicks, foot raise, lifts, kicks, footwork
Arms-mallet high, slow mallet raise, high mallet raise, same mallet raises
Head
Torso AND Face-laugh

Tally of Take One (Live only)
Feet-6
Arms-4
Face-2
Head-1

Tally of Take One and Take Two (Live only)
Feet-11
Arms AND Face-6
Head-2

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet/Lower-26
Arms-11
Head AND Face-7
Torso-5
(fine as is)

BEVERLEY JOHNSTON
Bach-Live and Video Results

1st Take: Overlapping Notes from Live and Video
Lips frown
Weight shifts
Abrupt raises
Mallets high at end

2nd Take: Overlapping Notes from Live and Video
Head
Lips, frown, determined
Weight shifts
Toe points
Head nodded
Big mallet raise
Abrupt and slow movements

Comparison of Take One and Take Two
More torso in second take at one section
More torso in first take on another section
Ending identical

Order of Mention in all Takes:
Arms - abrupt raises, mallets high,
Feet-weight shifts, toe points,
Face-lips frown, determined
Torso-same, different
Head

Tally of Take One (Live only)
Face-8
Arms-7
Feet-2
Torso AND Elbow-1

Tally of Take One and Take Two (Live only)
Face-14
Arms-10
Feet-5
Body-3
Head-2
Torso AND Elbow-1

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Face-18
Arms-17
Feet-13
Head-7
Torso-4
Body-3
Elbow-1

OR Face AND Arms-18
Feet-14
Head-7
Torso-4
Body-3

BEVERLEY JOHNSTON
Abe- Live and Video Results
1st Take: Overlapping Notes from Live and Video
   Mouth/lips
   Eyebrows
   Big leap
   Head nods/bobs
   Facial expression
   High mallet raise
   Step-together down

2nd Take: Overlapping Notes from Live and Video
   Bit lip
   Jump/leap
   High mallets
   Step-together down marimba
   Head with chords
   Mallets high
   Face/smile
   Different/beautiful ending pose with mallets

Comparison of Take One and Take Two
   Almost identical-just ending different

Order of Mention in all Takes:
   Face-mouth/lips, eyebrows, facial expression, bit lip, smile
   Feet-big leap, step-together down, jump/leap, step-together down marimba
   Arms-high mallet raise, high mallets, different/beautiful ending pose, height
   Head-nods/bobs, head with chords

Tally of Take One (Live only)
   Face-6
   Feet-4
   Arms-2
   Head AND Torso-1 each

Tally of Take One and Take Two (Live only)
   Face-11
   Feet-9
   Arms-6
   Head AND Torso-2 each

Tally of Take One and Take Two (Live and Video and Comparison)

ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
   Face-19
   Feet/Lower AND Arms-17 each
   Head-10
   Torso-2
   Body-1
   (Fine as is)

BEVERLEY JOHNSTON
J.S. Bach- Live and Video Results

1st Take: Overlapping Notes from Live and Video
Eyebrows up
Lips/mouth open
Weight shifts
Body/torso shake with rolls
Mouth movement/bit lip
Weight shift
Toe point
Kick
Shake
Leaned forward
Stationary feet
Reached down to last chord

2nd Take: Overlapping Notes from Live and Video
Eyebrows up
Mouth/lips open
Head shake
Weight shift
Shake with rolls
Lean/sway
Eyebrows up
 Reached to last chord

Comparison of Take One and Take Two
Slightly different torso and head at end of phrase
Different head timing-same but seconds later
Kick in first take, just toe raise in second

Order of Mention in all Takes:
Feet-weight shifts, toe point, kick, stationary
Face AND Torso-eyebrows, lips, mouth, bit lip AND shake, lean, sway

Tally of Take One (Live only)
Feet-8
Face-4
Body-3
Head-2
Arms-1

Tally of Take One and Take Two (Live only)
Feet-11
Face-10
Body-6
Head-5
Arms AND Elbow-2

Tally of Take One and Take Two (Live and Video and Comparison)
ORDER OF MENTION IN ALL TAKES AFTER TOTAL TALLY
Feet-24
Face-18
Head-16
Body AND Torso-8 each
Arms-6
Elbow-3
*OR Lower-24*
Face-18
Head-16
Arms-9
*Body AND Torso-8*
### Appendix 0c: Video and Live Analysis Results Chart

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Appendix 0d: “Order of Mention” Statistics for All Participants in All Takes

Trends Overall (all takes, all excerpts)

8/10 (except Aiyun and Ginny)- “Lower Body” as highest
7/10 (except Aiyun, Pius, Beverley)- “Lower and Arms” as top two
8/10 (except Aiyun and Pius)- “Lower and Arms” in top three
2/10 (Aiyun and Beverley)- “Face” in top two (second place)
5/10 (Aiyun, Tom, Doug, David, Beverley)- “Face” in top three
4/10 (Aiyun, Ginny, Pius, Joël)- “Torso or Body” in top three
3/10 (Pius, Ayano, Naoko)- “Head” in top three
5/10 (Tom, Pius, Ayano, Naoko, David)- “Sniff” as lowest
5/10 (Aiyun, Ginny, Doug, Joël, Beverley)- No “Sniff”

Order of Mention Overall (all takes, all excerpts)

Face-
Beverley (62)..........F
David (36)……..M
Tom (29).........M
Aiyun (26).......F
Naoko and Joël (18)….F/M
Pius (16).........M
Doug (15)……..M
Ginny (12)……..F
Ayano (5)……..F

Face Total: 238

Head-
Beverley (40)........F
Pius (25).........M
Naoko (23).......F
Ayano (19)……..F
Joël (16)..........M
Tom (12).........M
Aiyun (9)……..F
Ginny (4)……..F
Doug (3).........M
Head Total: 153

Arms-
Naoko (69)…….F
Beverley (55)…………F
Joël (46)……..M
Ginny (40)…….F
David (37)……..M
Tom (34)……..M
Doug (32)……..M
Ayano (29)…….F
Pius and Aiyun (19)….M/F

Arms Total: 380

Torso-
Ginny (31)……..F
Aiyun (28)……..F
Pius (20)……..M
Joël and Beverley (19)….M/F
Tom (14)……..M
Ayano (11)…….F
Naoko (9)……..F
Doug (4)……..M
David (3)……..M

Torso Total: 158

Lower Body-
Joël (129)……..M
Naoko (111)…….F
Doug (109)……..M
David (99)……..M
Beverley (81)……..F
Ayano (70)…….F
Tom (61)……..M
Pius (51)……..M
Ginny (35)…….F
Aiyun (17)…….F

Lower Body Total: 763

Body-
Pius (30)……..M
Joël (24)……..M
Aiyun and Naoko (19)….F/F
Ayano (17)…….F
Ginny (16)…….F
Tom (13)………..M
Beverley (12)……….F
Doug and David (8)….M/M

Body Total: 166

Sniff-
Naoko (6)……F
Pius (3)……..M
Tom and Ayano and David (2)….M/F/M
Aiyun and Ginny and Doug and Joël and Beverley (0) F/F/M/M/F

Sniff Total: 15

Order of Overall Totals:

Lower: 763
Arms: 380
Face: 238
Body: 166
Torso: 158
Head: 153
Sniff: 15

Trends in Stout

9/10 (except Aiyun) “Lower Body” as highest
6/10 (except Pius, Doug, David, and Beverley) “Torso” in top three
6/10 (except Ginny, Pius, Ayano, and Joël) “Face” in top three
6/10 (except Aiyun, Ginny, Tom, and David) “Head” in top three

Order of Mention (Stout)

Face-
Aiyun (16)........F
David (12).........M
Beverley and Tom (7)….F/M
Naoko (5)..........F
Ginny, Doug, Joël (3).........F/M/M
Ayano (2)........F
Pius (1)........M

Face Total (Stout): 59

Head-
Joël (9).........M
Beverley (7)........F
Pius and Naoko (5)........M/F
Ayano (4).........F
Tom (3).........M
Aiyun and Doug (2).........F/M
David (1).........M
Ginny (0).........F

Head Total (Stout): 38

Arms-
Beverley (11)..........F
Joël (5).........M
Ginny and Naoko (4).......F/F
Pius and Ayano (3)..........M/F
David (2).........M
Aiyun (1).........F
Tom and Doug (0).........M

Arms Total (Stout): 33

Torso-
Tom (8)...............F
Aiyun and Ginny (6).....F/F
Joël and Beverley (5)..........M/F
Pius and Naoko (4)..........M/F
Ayano (3).............F
Doug and David (1)..........M/M

Torso Total (Stout): 43

Lower-
Joël (34).........M
Doug (31).........M
Naoko (28)........F
Beverley (26)........F
Ayano (22)........F
David (19).........M
Ginny and Tom (12).........F/M
Pius (11).........M
Aiyun (5)................F

Lower Total (Stout): 200

Body-
Pius (6)................M
Ginny (5)..............F
Tom and Ayano and David (2)..............M/F/M
Naoko and Joël (1)..............F/M
Aiyun and Doug and Beverley (0)..............F/M

Body Total (Stout): 19
Sniff-
All (0)

Order of Stout Totals:

Lower: 200
Face: 59
Torso: 43
Head: 38
Arms: 33
Body: 19
Sniff: 0

Trends in Bach

5/10 (Tom, Pius, Ayano, Doug, Joël) “Lower Body” as highest
4/10 (Ginny, Naoko, David, Beverley) “Arms” as one of highest
9/10 (except Aiyun) “Lower” in top three
9/10 (except Pius) “Arms” in top three
7/10 (except Tom, David, Beverley) “Torso” and/or “Body” in top three
6/10 (except Aiyun, Ayano, Naoko, Joël) “Face” in top three
5/10 (Tom, Pius, Ayano, Naoko, David) “Sniff”

Order of Mention (Bach)

Face-
Beverley (18)..............F
David (13)..............M
Tom (10)..............M
Pius (9)..............M
Doug and Naoko (6)...........M/F
Ginny (5)............F
Aiyun and Ayano and Joël (1)......F/F/M

Face Total (Bach): 70

Head-
Beverley (7)...........F
Pius (6)...........M
Ginny and Naoko (4)......F/F
Aiyun and Tom and Joël (3)......F/M/M
Ayano (2)...........F
Doug (1)...........M
David (0)...........M

Head Total (Bach): 33

Arms-
Naoko (31)...........F
David (20)...........M
Beverley (18)...........F
Doug and Joël (15)...........M/M
Tom (13)...........M
Ayano (10)...........F
Ginny (8)...........F
Aiyun and Pius (7)...........F/M

Arms Total (Bach): 144

Torso-
Aiyun (10)...........F
Pius (9)...........M
Ginny (8)...........F
Joël (6)...........M
Tom and Beverley (4)...........M/F
Naoko (3)...........F
Doug (1)...........M
Ayano and David (0)...........F/M

Torso Total (Bach): 45

Lower-
Joël (36)...........M
Ayano (26)...........F
Doug (25)...........M
Naoko (19)...........F
David (18)...........M
Tom (15)..........M  
Beverley (14).........F  
Pius (12)..........M  
Ginny (5)..........F  
Aiyun (2)..........F  

Lower Total (Bach): 172

Body-
Pius and Joël (11).........M/M  
Aiyun (10).........F  
Naoko (9).........F  
Doug (6).........M  
Ayano (5).........F  
Tom (4).........M  
Beverley (3).........F  
David (2).........M  
Ginny (1).........F  

Body Total (Bach): 62

Sniff-
Naoko (3).........F  
Ayano (2).........F  
Tom, Pius, David (1).........M/M/M  
Aiyun, Ginny, Doug, Joël, Beverley (0).........F/F/M/M/F

Sniff Total (Bach): 8

Order of Bach Totals:

Lower: 172  
Arms: 144  
Face: 70  
Body: 62  
Torso: 45  
Head: 33  
Sniff: 8

Trends in Abe

7/10 (except Aiyun, Ginny, Beverley) “Lower Body” as highest  
10/10 “Arms” in top three  
6/10 (except Ginny, Pius, Ayano, Naoko) “Face” in top three
5/10 (Tom, Pius, Ayano, Naoko, Beverley) “Head’ in top three
3/10 (Pius, Naoko, David) “Sniff/Breath”

Order of Mention (Abe)

Face-
Beverley (19)……..F
Tom (10)……..M
Joël (9)……..M
David (8)……..M
Aiyun (7)……..F
Naoko (5)……..F
Doug (4)……..M
Ginny and Pius (2)……..F/M
Ayano (1)……..F

Face Total (Abe): 67

Head-
Beverley (10)……..F
Ayano (8)……..F
Naoko (7)……..F
Pius (5)……..M
Tom (4)……..M
Aiyun (3)……..F
Ginny and Doug and David and Joël (0)……..F/M/M/M

Head Total (Abe): 36

Arms-
Beverley (17)……..F
Naoko (16)……..F
Ginny (14)……..F
David (11)……..M
Tom and Joël (10)……..M/M
Aiyun (9)……..F
Ayano and Doug (7)……..F/M
Pius (5)……..M

Arms Total (Abe): 106

Torso-
Aiyun (9)……..F
Ayano (6)……..F
Ginny and Pius (5)……..F/M
Beverley (2) ............... F
Tom and Naoko and David (1) .......... M/F/M
Doug and Joël (0) ............ M/M

Torso Total (Abe): 30

Lower-
Joël (33) .................. M
Doug (30) ................. M
David (28) ............... M
Naoko (22) .............. F
Tom (20) ................. M
Ayano (18) .............. F
Beverley (17) .............. F
Pius (13) ............... M
Aiyun and Ginny (7) ....... F/F

Lower Total (Abe): 195

Body-
Pius (11) ................. M
Ginny (9) ............... F
Aiyun (5) ............... F
Ayano and Naoko (3) .......... F/F
Tom and Doug (2) .......... M/M
David and Beverley (1) .......... M/F
Joël (0) .................. M

Body Total (Abe): 37

Sniff-
Pius, Naoko, David (1) .......... M/F/M
Others (0)

Sniff Total (Abe): 3

Order of Abe Totals:

Lower: 195
Arms: 106
Face: 67
Body: 37
Head: 36
Torso: 30
Sniff: 3
Trends in Choice Excerpt

9/10 (except Beverley) “Arms” in top three
7/10 (except Aiyun, Ginny, and Ayano) “Lower Body” as highest
9/10 (except Ayano) “Lower” in top three
7/10 (except Pius, Naoko, Beverley) “Torso” and/or “Body” in top three
5/10 (Aiyun, Pius, Doug, David, Beverley) “Face in top three
3/10 (Tom, Pius, Naoko) “Sniff”

Order of Mention (Choice)

Face-
Beverley (18)..........F
Joël (5).............M
Pius (4)............M
David (3).........M
Aiyun, Ginny, Tom, Doug, Naoko (2)........F/F/M/M/F
Ayano (1)..........F

Face Total (Choice): 41

Head-
Beverley (16)..........F
Pius (9).............M
Naoko (7).........F
Ayano and Joël (5).......F/M
Tom (2)...........M
Aiyun and David (1).....F/M
Ginny and Doug (0).......F/M

Head Total (Choice): 46

Arms-
Naoko (18)..........F
Joël (16)..........M
Beverley (9)..........F
Ginny (14)..........F
Tom (11)...........M
Doug (10)..........M
Ayano (9)..........F
Pius and David (4).........M/M
Aiyun (2)..........F
Arms Total (Choice): 87

Torso-
Ginny (12)........F
Joël and Beverley (8).............M/F
Aiyun (3)...........F
Pius and Ayano and Doug (2).........M/F/M
Tom and Naoko and David (1).........M/F/M

Torso Total (Choice): 40

Lower-
Naoko (42)......F
David (34).......M
Joël (26).........M
Beverley (24).......F
Doug (23).........M
Pius (15).........M
Tom (14).........M
Ginny (11).......F
Ayano (4).......F
Aiyun (3).......F

Lower Total (Choice): 196

Body-
Joël (12).........M
Beverley (8).........F
Ayano (7).........F
Naoko (6).........F
Tom (5).........M
Aiyun (4).........F
David (3).........M
Pius (2).........M
Ginny (1).........F
Doug (0).........M

Body Total (Choice): 48

Sniff-
Naoko (2).........F
Tom and Pius (1)....M/M

Sniff Total (Choice): 4
Order of Choice Totals:

Lower: 196
Arms: 87
Body: 48
Head: 46
Face: 41
Torso: 40
Sniff: 4

- All excerpts have “Lower” 1st.
- All except Stout excerpt has “Lower” 1st, “Arms” 2nd.
Appendix 1a: Stout Excerpt: Order of Mention for All Participants’ 7 Body Areas
Appendix 1b: Stout Comparison

Stout Female Comparison Results

Tempo:
Slow-Fast
Aiyun/Ginny/Ayano (F-S-F)-Naoko-Beverley

After Roll Release:
Aiyun-Big lift, small prep
Ginny-Small lift, prep
Ayano-Stop, big prep
Naoko-Big lift, no extra prep
Beverley-Slow big graceful lift, no extra prep

Mallets at End:
All kept mallets near the bars

Most similar interpretation:
Aiyun and Ginny (except ending-Ginny slower)
Ayano and Naoko (similar interpretation and leg/footwork)
Ayano and Beverley (similar interpretation)

Other Observations:
Aiyun-mouth movements, leans
Ginny-firm arms, elbows out, slow tempo at end
Ayano-lots of feet slides, kicks
Naoko-nothing stood out except some feet slides
Beverley-most head and forward leans, abrupt releases
Ginny and Naoko-same feet slides

Music:
Aiyun, Ginny, Beverley

No Music:
Ayano, Naoko

Stout Male Comparison Results

Tempo:
Slow-Fast
Joël-Tom-Doug-David-Pius

After Roll Release:
David-Lift-bounce-prep
Joël-Lift-small prep
Tom-No lift-mallet adjustment-small prep
Pius-Close to bars-small prep lift
Doug-Lift-bounce-small prep

Mallets at End:
All had mallets near bars except Tom and Doug
Tom-One hand near bars-one off marimba and down
Doug-Mallets up and out of the way-no pose

Most similar interpretation:
Tom and Doug-Similar interpretation, similar feet patterns-step-togethers/slides, similar tempo although Tom was sometimes slightly faster

Other Observations:
David-quick pace
Joël-head crane to see music
Tom-more little steps, intense at end
Pius-more whole body and arms/elbows, delicate at end
Doug-little steps
David and Doug-similar tempo
David and Tom-similar tempo
Joël and Pius-similar sways at end

Music:
David, Joël, Pius, Doug

No Music:
Tom

**Stout Mixed Comparison Results**

Tempo:
Slow-Fast
Joël-Ginny/Ayano-Tom/Aiyun-Doug-David/Naoko-Beverley-Pius

After Roll Release:
Lift Only: Naoko, Beverley
Prep Only: Ayano, Tom, Pius
Lift and Prep: Aiyun, Ginny, David, Doug, Joël

Mallets at End:
All ended with mallets near bars except Tom and Doug
Tom-One hand near bars-one off marimba and down
Doug-Mallets up and out of the way-no pose

Most similar interpretation:
Aiyun and Tom-very similar tempo, interpretation, and rubatos
Naoko and David-similar tempo and interpretation

Other Observations:
Aiyun and David-similar interpretation but David quicker pace
Aiyun and Joël-similar step patterns
Ginny and Tom-similar feet patterns
Ginny and Pius-similar ending tempo
Ayano and David-similar tempo in beginning but Ayano more spacious
Ayano and Tom-similar head nods on slow part
Ayano and Doug-similar step patterns and shifts
Naoko and Tom-similar beginning tempo
Naoko and Doug-similar feet and weight shifts at end
Beverley and David-similar tempo but Beverley took more time
Beverley and Joël-similar step patterns
Beverley and Tom-similar tempo and interpretation minus rubato
Beverley and Doug-similar steps coming down in range

Music:
David, Joël, Pius, Doug, Aiyun, Ginny, Beverley

No Music:
Tom, Naoko, Ayano
Appendix 2a: Bach Excerpt: Order of Mention for All Participants’ 7 Body Areas
Appendix 2b: Bach Comparison

Bach Female Comparison Results

Tempo:
Slow-Fast
Naoko-Ayano-Aiyun/Ginny-Beverley

Stretched Chords-Abrupt Chords at End:
Beverley-Ayano-Naoko-Aiyun-Ginny

Mallets Up:
Beverley, Ayano, Aiyun

Mallets Down at End:
Naoko, Ginny

Most similar interpretation:
Naoko and Ayano-tempo, gesture, flourishes

Other Observations:
Aiyun-head, up the octave
Ayano-wide feet stance, more feet shifts
Ginny-stationary
Naoko-body shift at top range to face marimba, ease
Beverley-bouncy, extra-slow elbow raises, slow lifts
Ayano and Beverley-took lots of time on final chords
Aiyun and Ayano-same last mallet pose

Music: Beverley, Aiyun, Ginny
No Music: Naoko, Ayano

Bach Male Comparison Results

Tempo:
Slow-Fast
Pius (start and finish)-Tom-Doug-Joël-David-Pius (middle)

Stretched Chords-Abrupt Chords at End:
Tom-Pius-Doug-Joël/David

Mallets Up:
David, Tom, Doug
Mallets Down:
Joël, Pius

Most similar interpretation:
David and Doug

Other Observations:
David-little steps, played straight tempo, quick
Joël-body turn, up the octave
Tom-torso, grace, sometimes bouncy mallet lefts
Pius-delicate-intense-delicate, more head, torso leans forward, grace, flowy arms
Doug-feetwork/kicks/flexes
Tom and Pius-took most time, graceful
David and Doug-straight tempo

Music: David, Joël, Doug, Tom
No Music: Pius

Bach Mixed Comparison Results

Tempo:
Slow-Fast
Pius (beginning/end)-Tom-Naoko (S-F-S)/Doug (F-S-F)- Ayano-Joël-Ginny/Aiyun-David-Beverley-Pius (middle)

Stretched Chords-Abrupt chords at End:
Beverley-Tom-Ayano-Naoko-Pius-Doug-Aiyun-Ginny/Joël/David

Mallets Up:
David, Tom, Doug, Beverley, Ayano, Ayiun
Mallets Down:
Joël, Pius, Naoko, Ginny

Most Similar Interpretation:
Naoko and Tom (tempo and interpretation)

Other Observations:
Aiyun and David had similar tempi but Aiyun had more rubato
Aiyun and Joël had similar tempi and both played it up an octave
Ayano had a wider stance than Doug, both had lots of footwork to observe
Naoko and Joël both turned/angled body at the same point in the music to position

Music: Aiyun, Ginny, Beverley, Tom, David, Doug, Joël
No Music: Naoko, Ayano, Pius
Appendix 3a: Abe Excerpt: Order of Mention for All Participants’ 7 Body Areas
Appendix 3b: Abe Comparison

Abe Female Comparison Results

Tempo:
Slow-Fast
Ginny-Ayano-Beverley-Aiyun-Naoko

Step Slides:
All step-slide up
#5: All big step down (Aiyun didn’t play this part)

Stance:
All narrow stance except Ayano and Aiyun

Mallets:
All mallets up with a freeze or pause (Beverley only in one hand)
#4: All mallets up with a freeze (Naoko and Beverley only in one hand)

Most similar interpretation:
Aiyun and Beverley- similar interpretation, similar tempo, similar gestures

Other Observations:
Ayano also had a similar tempo to Beverley and Aiyun
Ginny-elbows out, slow at end
Ayano-body involvement
Beverley- head

Music: Aiyun, Ginny, Beverley
No Music: Ayano, Naoko

Abe Male Comparison Results

Tempo:
Slow-Fast
Tom-Doug/David-Joël-Pius

Step Slides:
All step slide up (Pius-bench slide with step slide)
#5: All participants-big step down (David didn’t go to the low octave here-didn’t step as big)

Stance:
All narrow stance
Mallets:
All mallets up: David and Joël-no freeze/pause; Tom, Pius, Doug-pause
#4: All mallets up and ALL ONE HAND ACROSS CHEST except Pius who ended with one hand near the bars and other hand by his side.

Most similar interpretation:
David and Doug had a similar tempo: Doug was faster in 1st part, David in 2nd

Other Observations:
Joël seemed particularly confident with this piece
Pius was also confident as usual, somewhat bouncy
Doug had lots of small step-togethers

Music:
David, Joël, Tom, Doug
No Music:
Pius

Abe Mixed Comparison Results

Tempo:
Slow-Fast
Tom-Ginny(slowest at end)-David/Doug-Ayano-Joël-Beverley-Aiyun-Naoko/Pius

Step Slides:
All step slide up (Pius-bench slide with step slide)
#5: All participants-big step down (Aiyun didn’t play this, David in octave higher than written)

Stance:
All narrow stance except Ayano and Aiyun

Mallets:
All mallets up: David and Joël-no freeze/pause; Tom, Pius, Doug-pause, All females froze with both hands up except Beverley with just one hand up.
#4: All mallets up with ALL MALES HAVING ONE HAND ACROSS CHEST except Pius who ended with one hand near the bars and other hand by his side. ALL FEMALES ENDED WITH BOTH HANDS UP except Beverley and Naoko with one hand.

Most similar interpretation:
Naoko and Joël-similar tempo and interpretation
Naoko and Pius-similar tempo and interpretation
Beverley and Joël-similar tempo and interpretation
Beverley and Pius-similar gestures and interpretation
Other Observations:
Aiyun—high mallet height
Joël—unexpected hand position with right hand above left on rolls
Doug—turned body to side for positioning
Pius—most extremes—faster fasts, slower slows, big rits and accells
Ayano—high mallet height, extremes
Beverley—theatrical, rubato, head
David—quickness through rests
Aiyun and David—similar tempo but Aiyun had more rubato
Aiyun and Pius—both engaged body
Aiyun and Doug—similar tempo but Aiyun had more rubato
Ginny and Tom—similar tempo except end

Music:
Aiyun, Ginny, Beverley, David, Joël, Tom, Doug
No Music:
Pius, Ayano, Naoko
Appendix 4: Choice Excerpt: Order of Mention for All Participants’ 7 Body Areas
Appendix 5: Each Excerpt: Each Participants’ Total Number of Notes in Each Excerpt

Participants’ Number of Notes Ranking: All Excerpts
Aiyun- Abe, Bach, Stout, Choice (A-B-S-C), (A-B-S)
Ginny-Choice, Abe, Bach, Stout (C-A-B-S), (A-B-S)
Tom- Bach, Abe, Choice, Stout (B-A-C-S), (B-A-S)
Pius-Bach, Abe, Choice, Stout (B-A-C-S), (B-A-S)
Ayano-Bach, Abe, Stout, Choice (B-A-S-C), (B-A-S)
Doug-Bach, Abe, Stout & Choice (B-A-S/C), (B-A-S)
Naoko-Choice, Bach, Abe, Stout (C-B-A-S), (B-A-S)
David-Bach, Abe, Choice, Stout (B-A-C-S), (B-A-S)
Joël-Bach, Choice, Stout, Abe (B-C-S-A), (B-S-A)
Beverley-Choice, Abe, Bach, Stout (C-A-B-S), (A-B-S)

Ranking Including Choice
6/10-Bach highest
3/10-Choice highest
1/10-Abe highest
0/10-Stout highest

Ranking Excluding Choice
6/10-Bach, Abe, Stout
3/10-Abe, Bach, Stout
1/10-Bach, Stout, Abe
0/10-Stout highest
Appendix 6: Each Excerpt: Order of Mention-Combined Among All Participants
Appendix 7: All Excerpts Combined: Order of Mention-Combined Among All Participants

<table>
<thead>
<tr>
<th>Participants’ Overall Totals in 7 Body Areas</th>
<th>Highest Ranked Participant in Each Category</th>
<th>Lowest Ranked Participants in Each Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower-763</td>
<td>Lower-Joël</td>
<td>Lower-Aiyun</td>
</tr>
<tr>
<td>Arms-380</td>
<td>Arms-Naoko</td>
<td>Arms-Aiyun</td>
</tr>
<tr>
<td>Face-238</td>
<td>Face-Beverley</td>
<td>Face-Aiyun</td>
</tr>
<tr>
<td>Body-166</td>
<td>Body-Pius</td>
<td>Body-David &amp; Doug</td>
</tr>
<tr>
<td>Torso-158</td>
<td>Torso-Ginny</td>
<td>Torso-David</td>
</tr>
<tr>
<td>Head-153</td>
<td>Head-Beverley</td>
<td>Head-David</td>
</tr>
<tr>
<td>Sniff/Breath-15</td>
<td>Sniff/Breath-Naoko</td>
<td>Sniff-Aiyun, Ginny, Doug, Joël, &amp; Beverley</td>
</tr>
</tbody>
</table>
Appendix 8: Sum of All 7 Body Areas in All Excerpts for All Participants

![Bar chart showing the sum of all 7 body areas in all excerpts for all participants.](chart.png)
Appendix 9: Sum of All 7 Body Areas in All Excerpts for All Participants Combined
Appendix 10: Female Order of Mention
Appendix 11: Male Order of Mention
Appendix 12: Comparison of “Order of Mention” Averages to Each Participant

<table>
<thead>
<tr>
<th>Participant</th>
<th>Body Area in Order of Mention</th>
<th>Average</th>
<th>Difference</th>
<th>Difference from Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiyun</td>
<td>Torso 28</td>
<td>15.8</td>
<td>12.2 +</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Face 26</td>
<td>23.8</td>
<td>2.2 +</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arms 19</td>
<td>38</td>
<td>19 -</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Body 19</td>
<td>16.6</td>
<td>2.4 +</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower 17</td>
<td>76.3</td>
<td>59.3 -</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Head 9</td>
<td>15.3</td>
<td>6.3 -</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sniff 0</td>
<td>1.5</td>
<td>1.5 -</td>
<td></td>
</tr>
</tbody>
</table>

Total: 102.9

| Ginny       | Arms 40                        | 38      | 2 +        |                        |
|             | Lower 35                       | 76.3    | 41.3 -     |                        |
|             | Torso 31                       | 15.8    | 15.2 +     |                        |
|             | Body 16                        | 16.6    | 0.6 -      |                        |
|             | Face 12                        | 23.8    | 11.8 -     |                        |
|             | Head 4                         | 15.3    | 11.3 -     |                        |
|             | Sniff 0                        | 1.5     | 1.5 -      |                        |

Total: 83.7

| Tom         | Lower 61                       | 76.3    | 15.3 -     |                        |
|             | Arms 34                        | 38      | 4 -        |                        |
|             | Face 29                        | 23.8    | 5.2 +      |                        |
|             | Torso 14                       | 15.8    | 1.8 -      |                        |
|             | Body 13                        | 16.6    | 3.6 -      |                        |
|             | Head 12                        | 15.3    | 3.3 -      |                        |
|             | Sniff 2                        | 1.5     | 0.5 +      |                        |

Total: 33.7

| Pius        | Lower 51                       | 76.3    | 25.3 -     |                        |
|             | Body 30                        | 16.6    | 13.4 -     |                        |
|             | Head 25                        | 15.3    | 9.7 -      |                        |
|             | Torso 20                       | 15.8    | 4.2 -      |                        |
|             | Arms 19                        | 38      | 19 -       |                        |
|             | Face 16                        | 23.8    | 7.8 -      |                        |
|             | Sniff 3                        | 1.5     | 1.5 +      |                        |

Total: 80.9

| Ayano       | Lower 70                       | 76.3    | 6.3 -      |                        |
|             | Arms 29                        | 38      | 9 -        |                        |
|             | Head 19                        | 15.3    | 3.7 +      |                        |
|             | Body 17                        | 16.6    | 0.4 +      |                        |
|             | Torso 11                       | 15.8    | 4.8 -      |                        |
|             | Face 5                         | 23.8    | 18.8 -     |                        |
|             | Sniff 2                        | 1.5     | 0.5 +      |                        |

Total: 43.5

<p>| Doug        | Lower 109                      | 76.3    | 32.7 +     |                        |</p>
<table>
<thead>
<tr>
<th></th>
<th>Lower</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Naoko</td>
<td>111</td>
<td>76.3</td>
<td>34.7+</td>
</tr>
<tr>
<td>Arms</td>
<td>69</td>
<td>38</td>
<td>31+</td>
</tr>
<tr>
<td>Head</td>
<td>23</td>
<td>15.3</td>
<td>7.7+</td>
</tr>
<tr>
<td>Body</td>
<td>19</td>
<td>16.6</td>
<td>2.4+</td>
</tr>
<tr>
<td>Face</td>
<td>18</td>
<td>23.8</td>
<td>5.8-</td>
</tr>
<tr>
<td>Torso</td>
<td>9</td>
<td>15.8</td>
<td>6.8-</td>
</tr>
<tr>
<td>Sniff</td>
<td>6</td>
<td>1.5</td>
<td>4.5+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>81.7</td>
</tr>
<tr>
<td>David</td>
<td>99</td>
<td>76.3</td>
<td>22.7+</td>
</tr>
<tr>
<td>Arms</td>
<td>37</td>
<td>38</td>
<td>1-</td>
</tr>
<tr>
<td>Face</td>
<td>36</td>
<td>23.8</td>
<td>12.2+</td>
</tr>
<tr>
<td>Body</td>
<td>8</td>
<td>16.6</td>
<td>8.6-</td>
</tr>
<tr>
<td>Torso</td>
<td>3</td>
<td>15.8</td>
<td>12.8-</td>
</tr>
<tr>
<td>Head</td>
<td>2</td>
<td>15.3</td>
<td>13.3-</td>
</tr>
<tr>
<td>Sniff</td>
<td>2</td>
<td>1.5</td>
<td>0.5+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>92.9</td>
</tr>
<tr>
<td>Joël</td>
<td>129</td>
<td>76.3</td>
<td>52.7+</td>
</tr>
<tr>
<td>Arms</td>
<td>46</td>
<td>38</td>
<td>8+</td>
</tr>
<tr>
<td>Body</td>
<td>24</td>
<td>16.6</td>
<td>7.4+</td>
</tr>
<tr>
<td>Torso</td>
<td>19</td>
<td>15.8</td>
<td>3.2+</td>
</tr>
<tr>
<td>Face</td>
<td>18</td>
<td>23.8</td>
<td>5.8-</td>
</tr>
<tr>
<td>Head</td>
<td>16</td>
<td>15.3</td>
<td>0.7+</td>
</tr>
<tr>
<td>Sniff</td>
<td>0</td>
<td>1.5</td>
<td>1.5-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>71.7</td>
</tr>
<tr>
<td>Beverley</td>
<td>81</td>
<td>76.3</td>
<td>4.7+</td>
</tr>
<tr>
<td>Face</td>
<td>62</td>
<td>23.8</td>
<td>38.2+</td>
</tr>
<tr>
<td>Arms</td>
<td>55</td>
<td>38</td>
<td>17+</td>
</tr>
<tr>
<td>Head</td>
<td>40</td>
<td>15.3</td>
<td>24.7+</td>
</tr>
<tr>
<td>Torso</td>
<td>19</td>
<td>15.8</td>
<td>3.2+</td>
</tr>
<tr>
<td>Body</td>
<td>12</td>
<td>16.6</td>
<td>4.6-</td>
</tr>
<tr>
<td>Sniff</td>
<td>0</td>
<td>1.5</td>
<td>1.5-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>93.9</td>
</tr>
</tbody>
</table>
Appendix 13: Individual Analysis Results Summary

Chart 1:
Stout: 9/10 participants (-Aiyun) had “Lower” as most observed body area.

Chart 2:
Bach: 5/10 (4/5 Male -David +Ayano) had “Lower” as most observed body area.

Chart 3:
Abe: 7/10 (-Aiyun, Ginny, Beverley) had “Lower” as most observed body area.

Chart 4:
Choice: 7/10 (-Aiyun, Ginny, Ayano) had “Lower” as most observed body area.

Chart 5:
The Bach excerpt produced the highest number of observed gestures overall, 6/10 participants had the highest number of observed gestures in Bach (5 males +Ayano). The Stout excerpt produced the lowest number of observed gestures overall, 0/10 participants had the highest number of observed gestures in Stout.

Chart 6:
“Lower” body produced the highest number of observed gestures in 4/4 excerpts.

Chart 7:
In the 7 Body Areas, the highest and lowest number of observed gesture are shown:

<table>
<thead>
<tr>
<th>Body Area</th>
<th>Highest</th>
<th>Lowest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>Joël</td>
<td>Aiyun</td>
</tr>
<tr>
<td>Arms</td>
<td>Naoko</td>
<td>Aiyun</td>
</tr>
<tr>
<td>Face</td>
<td>Beverley</td>
<td>Ayano</td>
</tr>
<tr>
<td>Body</td>
<td>Pius</td>
<td>David and Doug</td>
</tr>
<tr>
<td>Torso</td>
<td>Ginny</td>
<td>David</td>
</tr>
<tr>
<td>Head</td>
<td>Beverley</td>
<td>David</td>
</tr>
<tr>
<td>Sniff/Breath</td>
<td>Naoko</td>
<td>Aiyun, Ginny, Doug, Joël, Beverley</td>
</tr>
</tbody>
</table>

Chart 8:
Beverley had the most observed gestures in the study and Aiyun had the least.

Chart 9:
Combined for All Participants in All Excerpts: “Lower” was the most observed, “Sniff” the least
Lower 763, Arms 380, Face 238, Body 166, Torso 158, Head 153, Sniff/Breath 15

OVERALL SUMMARY:
1) “Lower” body had the highest number of overall observed gesture, “Sniff” least
2) “Bach” excerpt had the highest number of observed movement, “Stout” least
3) Beverley had the highest number of observed movement, Aiyun least
4) Joël had the highest number of “Lower” body observed gesture, Aiyun least
5) Between Stout, Bach, and Abe, 6/10 participants (4/6 male) had Bach-Abe-Stout as their order of how many observed notes were mentioned in each excerpt. Joël had Bach-Stout-Abe. Aiyun, Ginny, and Beverley had Abe-Bach-Stout (Appendix 5)
6) In Bach and Abe, Order of Mention was Lower, Arms, Face, Body, Torso/Head, Breath. Choice excerpt had a similar order while Stout was different with Lower, Face, Torso, Head, Arms, Body, Breath. (Appendix 6)
7) Most participants, 7/10 (4 male, 3 female) had “Lower” and “Arms” as their most observed body areas in all excerpts. “Face” was in the top three for 5/10 (3 male, 2 female) David and Doug had the same Order of Mention: Lower, Arms, Face, Body, Torso, Head, Sniff. This was also the same order as the overall average. (Appendix 7)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Top Body Areas in Order of Mention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiyun</td>
<td>Torso, Face, Arms, Body</td>
</tr>
<tr>
<td>Ginny</td>
<td>Arms, Lower, Torso</td>
</tr>
<tr>
<td>Tom</td>
<td>Lower, Arms, Face</td>
</tr>
<tr>
<td>Pius</td>
<td>Lower, Body, Head, Torso</td>
</tr>
<tr>
<td>Ayano</td>
<td>Lower, Arms, Head, Body</td>
</tr>
<tr>
<td>Doug</td>
<td>Lower, Arms, Face</td>
</tr>
<tr>
<td>Naoko</td>
<td>Lower, Arms, Head</td>
</tr>
<tr>
<td>David</td>
<td>Lower, Arms, Face</td>
</tr>
<tr>
<td>Joël</td>
<td>Lower, Arms, Body</td>
</tr>
<tr>
<td>Beverley</td>
<td>Lower, Face, Arms, Head</td>
</tr>
</tbody>
</table>

8) Beverley had the most observed movement overall. Naoko and Joël were close after. David, Doug, Tom, Pius, and Ayano were similar, then Ginny, then Aiyun. (Appendix 8)
9) The Sum and Average of All 7 Body Areas in all excerpts for all participants combined ranked in the following order: Lower-Arms-Face-Body-Torso-Head-Sniff. Presented are the overall averages of each category and how much each participant deviated:
Lower- 76.3
Arms-38
Face-23.8
Body-16.6
Torso-15.8
Head-15.3
Sniff-1.5

<table>
<thead>
<tr>
<th>Participant</th>
<th>Difference from Average</th>
<th>Avg Total minus Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiyun</td>
<td>102.9</td>
<td>69.3</td>
</tr>
<tr>
<td>Ginny</td>
<td>83.7</td>
<td>49.3</td>
</tr>
<tr>
<td>Tom</td>
<td>33.7</td>
<td>22.3</td>
</tr>
<tr>
<td>Pius</td>
<td>80.9</td>
<td>23.3</td>
</tr>
<tr>
<td>Ayano</td>
<td>43.5</td>
<td>34.3</td>
</tr>
<tr>
<td>Doug</td>
<td>81.7</td>
<td>16.3</td>
</tr>
<tr>
<td>Naoko</td>
<td>92.9</td>
<td>-67.7</td>
</tr>
<tr>
<td>David</td>
<td>71.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Joël</td>
<td>79.3</td>
<td>-64.7</td>
</tr>
<tr>
<td>Beverley</td>
<td>93.9</td>
<td>-81.7</td>
</tr>
</tbody>
</table>
a) Tom’s total was the closest to the average total, meaning he had the closest number of observed movement as the average of all participants. Aiyun’s was the furthest.

b) Beverley’s total was higher than the average and any other participant, meaning she had the most observed movement. Aiyun had the least observed movement overall. (Appendix 9)
Appendix 14a: Summarized Comparison Results of Each Participant in Stout, Bach, and Abe

**Tempo:**
Generally Fastest - Pius; Generally Slowest - Tom and Ginny

**Most Similar Performances Based on Interpretation and Tempo:**
David and Doug
Ayano and Beverley
David and Aiyun (although Aiyun took more liberties with rests)

**Gesture Similarities:**

<table>
<thead>
<tr>
<th>Stout:</th>
<th>Bach:</th>
<th>Abe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayano and Tom-head</td>
<td>Naoko and Joël-body turns</td>
<td>Beverley and Pius-body</td>
</tr>
<tr>
<td>Joël and Pius-sways</td>
<td>Naoko and Ayano-body</td>
<td>Aiyun and Pius-body</td>
</tr>
<tr>
<td></td>
<td>Aiyun and Ayano-end pose</td>
<td>Aiyun and Beverley-body</td>
</tr>
<tr>
<td></td>
<td>Tom and Pius-graceful</td>
<td>Joël and Pius-body</td>
</tr>
</tbody>
</table>

*Joël and Pius had the most similarities in Gestures

**“Lower Body” Similarities:**

<table>
<thead>
<tr>
<th>Stout:</th>
<th>Bach:</th>
<th>Abe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiyun and Joël</td>
<td>Ayano and Doug</td>
<td>Ayano and Aiyun #3</td>
</tr>
<tr>
<td>Ginny and Tom</td>
<td>10/10 step-slide #1</td>
<td></td>
</tr>
<tr>
<td>Ayano and Doug</td>
<td>10/10 big step down #5</td>
<td></td>
</tr>
<tr>
<td>Naoko and Doug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverley and Joël</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverley and Doug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayano and Naoko</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tom and Doug</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Ayano and Doug had the most similarities in “Lower”

**“Arm/Mallet” Similarities:**

<table>
<thead>
<tr>
<th>Stout:</th>
<th>Bach:</th>
<th>Abe:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>After Roll Release:</strong></td>
<td></td>
<td><strong>Mallets #2:</strong></td>
</tr>
<tr>
<td>Lift Only: Naoko, Beverley</td>
<td></td>
<td>10/10 had mallets up.</td>
</tr>
<tr>
<td>Prep Only: Ayano, Tom, Pius</td>
<td></td>
<td>4/5 females froze with both hands up except Beverley (who had one hand up).</td>
</tr>
<tr>
<td>Lift and Prep: Aiyun, Ginny, David, Doug, Joël</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Stretched to Abrupt:</strong></td>
<td>Beverley-Tom-Ayano/Naoko-Pius- Doug-Aiyun-Ginny/Joël/David</td>
<td><strong>Mallets at End #4:</strong></td>
</tr>
<tr>
<td><strong>Mallets at End:</strong></td>
<td>Up: David, Tom, Doug, Beverley, Ayano, Aiyun Down: Joël, Pius, Naoko, Ginny</td>
<td>10/10 mallets up, 4/5 males one hand at chest (-Pius). 3/5 females both hands up (-Beverley &amp; Naoko).</td>
</tr>
</tbody>
</table>
*Beverley and Naoko as well as Tom and Doug had the most similarities in “Arms/Mallet”

**Comparison Trends:**
Stout:
Tom and Doug both took little steps
Bach:
Tom and Pius were both graceful
Beverley and Tom both had bouncy moments
Abe:
Ayano and Pius both used extremes in tempi and rubato
Aiyun and Ayano had high mallet height

**Individual Trends:**
Doug- feet in all 3 excerpts (small steps)
Ginny- arms, firm upper body (elbows out)
Ayano- legs/feet (kicks, weight shifts)
Beverley- head, torso, arms
David- quick pace (short rests)
Pius- body and arms

**“Lower” Focus:**
Ayano and Doug

**“Arms/Mallets” Focus:**
Ginny, Beverley and Pius
Appendix 14b: Comparison Results of Each Participant in All Three Excerpts: Stout, Bach, and Abe

**Tempo:**
*Pius-fastest in all excerpts; most extremes in tempo and rubato
Beverley, Naoko, David—generally fastest after Pius
*Tom, Ginny—generally slowest tempo

*Using music did not seem to relate to speed (Naoko and Ayano always played from memory) (Pius and Tom generally played from memory)

**Similarities in Participants:**

Stout’s Most Similar:
- Aiyun and Tom—interpretation and tempo
- Naoko and David—interpretation and tempo
- Ayano and Naoko—interpretation and feet
- Tom and Doug—interpretation and feet
- Ayano and Beverley—interpretation
- Aiyun and Ginny—interpretation

Bach’s Most Similar:
- Naoko and Tom—interpretation and tempo
- Naoko and Ayano—tempo, gesture, flourishes
- David and Doug—interpretation

Abe’s Most Similar:
- Aiyun and Beverley—interpretation, tempo, and gestures
- Naoko and Joël—interpretation and tempo
- Naoko and Pius—interpretation and tempo
- Beverley and Joël—interpretation and tempo
- Beverley and Pius—interpretation and gestures
- David and Doug—tempo

*David and Doug reach “Most Similar” category in two (most) excerpts

**Similarities in All 3 Excerpts:**
- David and Doug—interpretation and tempo
- Ayano and Beverley—interpretation and tempo
- David and Aiyun—interpretation and tempo (although Aiyun took more time in rests)

**Gesture Similarities**

**Stout:**
- Ayano and Tom—head
- Joël and Pius—sways

**Bach:**
- Naoko and Joël—body turn/angle
- Naoko and Ayano—gestures, flourishes
Aiyun and Ayano—same ending pose
Tom and Pius—graceful, took time

Abe:
Beverley and Pius—gestures, interpretation
Aiyun and Pius—engaged body
Aiyun and Beverley—gestures, interpretation, tempo
Joël and Pius—confident

*Joël and Pius had the most similarities in Gestures

**Footwork Similarities**

**Stout:**
Aiyun and Joël
Ginny and Tom
Ayano and Doug
Naoko and Doug
Beverley and Joël
Beverley and Doug
Ayano and Naoko
Tom and Doug

**Bach:**
Ayano and Doug

**Abe:**
Ayano and Aiyun—wide stance at #3
ALL STEP SLIDE UP at #1 (Pius—bench slide with step slide)
ALL BIG STEP DOWN at #5 (Aiyun didn’t play, David was octave higher than written)

*Ayano and Doug had most similarities in footwork

**Arm/Mallet Similarities**

**Stout:**
After Roll Release:
Lift Only: Naoko, Beverley
Prep Only: Ayano, Tom, Pius
Lift and Prep: Aiyun, Ginny, David, Doug, Joël

**Mallets at End:**
ALL ENDED WITH MALLETS NEAR BARS except Tom and Doug
Tom—One hand near bars—one off marimba and down
Doug—Mallets up and out of the way—no pose

**Bach:**
Stretched Chords to Abrupt Chords at End:
Beverley—Tom-Ayano/Naoko-Doug-Aiyun-Ginny/Joël/David
Tempo (Slow to Fast):
Pius (beginning/end)—Tom-Naoko (S-F-S)/Doug (F-S-F)—Ayano-Joël-Ginny/Aiyun-David-Beverley-Pius (middle)

*Seems to be a correlation between speed and chord releases. With the exception of
Beverley, all the fastest people on the Bach played with abrupt releases whereas the
slower players played with stretched releases.

**Mallets Up at End:**
David, Tom, Doug, Beverley, Ayano, Aiyun

Mallets Down at End:
Joël, Pius, Naoko, Ginny

Abe:
*All participants had mallets up at #2 (David and Joël-no freeze) (Tom, Pius, Doug-pause) (ALL FEMALES FROZE WITH BOTH HANDS UP except Beverley-just one hand)
*All mallets up at #4 (end) with 4/5 MALES HAVING ONE HAND ACROSS CHEST except Pius who ended with one hand near the bars and other hand by his side. 3/5 FEMALES ENDED WITH BOTH HANDS UP except Beverley and Naoko with one hand up.

Other Individual Observations:
Stout:
Aiyun-mouth, leans/torso
Ginny-firm arms, elbows out
Ayano-feet slides, kicks
Naoko-some footwork
Beverley-head, forward leans, abrupt releases
David-quick pace
Joël-head crane to read music
Tom-little steps, intense
Pius-whole body and arm/elbows, delicate at end
Doug-little steps

Bach:
Aiyun-head
Ginny-stationary
Ayano-wide stance, feet shifts
Naoko-body shift to face marimba, ease
Beverley-bouncy, extra-slow elbow raises, slow lifts
David-little steps, straight tempo, quick pace
Joël-body shift to face marimba
Tom-torso, grace, sometimes bouncy, mallet lifts
Pius-delicate-intense-delicate, head, torso leans forward, grace, flowy arms
Doug-footwork/kicks/flexes

Abe:
Aiyun-high mallet height
Ginny-elbows out
Ayano-body involvement, high mallet height, extremes
Beverley-head, theatrical
David-quick pace
Joël-confidence, unexpected hand position with right hand above left on rolls
Pius-confidence, somewhat bouncy, extremes
Doug-small step-togethers, turned body to side for positioning

Comparison Trends that Stood Out:
Stout
*Tom and Doug both took little steps

Bach
*Tom and Pius were both graceful in the Bach
*Beverley and Tom both had bouncy moments in the Bach

Abe
*Ayano and Pius both used extremes in tempi and rubatos in the Abe
*Aiyun and Ayano had high mallet height in the Abe

**Individual Trends that Stood Out due to Repetition**
*Doug- feet in all 3 excerpts (small steps)
*Ginny- arms, firm upper body (elbows out)
*Ayano- legs/feet (kicks, weight shifts)
*Beverley- head, torso, arms
*David- quickness
*Pius- body and arms

**Arms Focus:**
Ginny, Beverley, Pius

**Feet Focus:**
Ayano, Doug

**Body/Torso Focus:**
Beverley, Pius

**Head Focus:**
Beverley
Appendix 15a: Interview Questions

Name:
Age:
Height/Weight:
Gender:
Occupation:
Place of Birth:
Place of Longest Residence
Place of Current Residence:
Number of Years Playing Marimba and Your Age When You Began:
Brand of Your Marimba:
Brand of Your Mallets:
Grip Type:
Describe Any Injuries Related to Performance:
Describe The Type of Repertoire You Generally Play:
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11.
Repertoire You Have Recorded:
Education Background:
University Teaching Background:
Hobbies:

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

5. If playing the same piece for multiple performances, are your movements similar/same, why?

6. When changing pieces in a performance, do you also change your movements? How so?

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

8. Are there situations where you find it inappropriate to move while playing? Please explain.

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

10. Please describe your background in musical activities and in any other activities related to movement (other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

11. Do you have any additional thoughts/suggestions/comments regarding movement?
Appendix 15b: Written and Live Interview Responses

*Bold Text Indicates Written Responses
*Regular Text Indicates Live (Follow-Up) Correspondence

AIYUN’S RESPONSES:

Name: Aiyun Huang
Age: 38
Height/Weight: 162cm/56 kg
Gender: Female
Occupation: Professor
Place of Birth: Taiwan
Place of Longest Residence: Taiwan
Place of Current Residence: Montreal
Number of Years Playing Marimba and Your Age When You Began: Began at age 12 (26 years)
Brand of Your Marimba: Adams/Yamaha
Brand of Your Mallets: Adams or others
Grip Type: Traditional
Describe Any Injuries Related to Performance: No long-term injuries
Describe The Type of Repertoire You Generally Play: Contemporary percussion repertoire
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11. Never played them myself, but have taught them in lessons and masterclasses
Repertoire You Have Recorded: chamber music and solo music
Education Background: D.M.A
University Teaching Background: Professor of percussion
Hobbies: Cooking and

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

Not in performance, but I think about movements a lot during practice. I try to incorporate movements into my physical gestures in order to create consistency and to avoid surprising gestures in concerts! In performance, I am not sure if I can tell you exactly what I think since it seems to change often and I can’t recall those thoughts afterward.

Michelle (M): What might happen if, in a concert, you had that surprising gesture, would that mess you up or what would happen to the actual accuracy of performance

Aiyun (A): Yeah, you know, I think what happens a little bit is if I don’t practice how I’m going to move, or more exactly, when to move (I think that’s more the key)…if I don’t practice when to move, then in performance, I might find myself moving at the wrong time and that could create a problem.

M: Has that happened and then you had to adjust?

A: Yeah

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)
I try to be specific with where and how I stand in relation to the keyboard. If my standing position is good, usually the upper body follows naturally.

M: You talked about “how you stand” as being a focus. I’m just wondering if you think of specific things like stepping or shifting, or any specific things with the stance.

A: Yeah, I think about where I stand in relation to the keyboard; how I face the keyboard and also my hips. I think about my hips and my knees and then my arms: So not just the hands but the arms too.

M: So your main focus is generally the lower part?

A: I think the lower part is the one that when you practice, if you’re not conscious of it or aware of exactly what you’re doing, that’s where the surprises will happen more in concerts.

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

I don’t teach people to move, but I teach people to be aware of where they stand, how they stand and bring awareness about the function of their knees and hips as they relate to performance. When people understand that their knees and hips actually play an active role in playing, they move according to what they would like to accomplish musically. It is true that some people move instinctually in order to play well and some people separate the function of their body from their arms and hands. In most cases, I find that small people need to (usually does without being taught) use their bodies more in order to generate sounds and to get around the instruments. There is no way around that. Large people do not need to move as much because there is less need to do so.

M: I wondered why the focus on the knees and hip.

A: A lot of people, when they come to study, I find that there’s a detachment in terms of how they think about the function of the body versus how they think of the function of the arms. So for them, the percussionist is from here down (motions to shoulders and then down), or sometimes even more, from here down (motions to elbow and then down). So, many younger students tend not to be aware of how their bodies can help them play better, or how they can put themselves in position in relation to the keyboard, that allows their hands to do things more comfortably. So that’s the main thing that can be taught easily because I could say to a student, “Could you find a way to make yourself feel comfortable at the keyboard so then your hands can fall naturally onto the keyboard, hitting the areas that you want to hit and producing the sound that you want to hear?” And so those things are fairly analytical; it doesn’t depend on somebody who is a dancer or athlete, or, you know, someone who is out playing sports, to be able to understand how that could work in the context of playing percussion. And it’s not specific just to playing the marimba. I think it’s essential to many things that we do once we move behind playing something right in front of us. We naturally have to incorporate that into our practicing, making ourselves feel comfortable, which ultimately will reduce injury and we would have longer practice sessions because we would always be in a comfortable position.
4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

I never studied with a marimba soloist. My teachers were all-around percussionists: Mr. Ju (Ju Percussion), Bor-Nien Hsu (Taiwan, Forum Percussion Group director), Russell Hartenberger and Robin Engelman (U of Toronto), Gaston Sylvestre and Francois Bedel (France), Will Hudgins and Frank Epstein (NEC), Steven Schick (UCSD). Bor-Nien was probably the one teacher who defined my marimba playing when I was in high school. After I started university, I received few explicit methodologies in approaching marimba playing. However, I did receive instructions on many other kinds of percussion playing (including orchestral, multi-percussion and chamber music). The instructions on timpani were probably the foundation in how I think about sound, and that translates onto all the instruments I play. My background in piano probably was also important in helping me build my methodology in approaching keyboard percussion. I don’t think of myself as a marimba soloist. However, marimba has a special place in my early years of playing percussion.

M: Can you elaborate on your first teacher?

A: I studied with him between age 15 and 17. I studied with him the last two years of high school when I was in Taiwan. He was sort of the person who kind of spoon-fed me in terms of how to play. He would tell me, “I think you should…” For some reason my memory of the period isn’t so clear. I cannot recall specific episodes of how he taught me, but looking back, (now that I’m a teacher), when I think about all of my teachers and how they taught me, I’m pretty sure that he taught me exactly what to do because all the teachers that I studied subsequently had sort of broader approaches to pedagogy and they were not the spoon-feeding type. They rarely would tell you specifically what to do. So, I think he did that from looking back.

M: You also mentioned that you have a piano background and you thought that was important with helping build your keyboard skills.

A: Yeah, you know I think as a piano player, I was comfortable playing more than one note on percussion, so beyond a single melodic line, I was comfortable reading multiple lines at the same time. The barrier between reading one line versus two lines, was not a barrier for me; it didn’t seem foreign when I had to do it and I think that’s because I’ve played piano for a long time. Not that I was a great pianist, in fact I wasn’t a very good pianist and I never really practiced, but because I barely practiced the piano, I had to sight read a lot when I was a kid just to keep up with going to lessons and the stuff I was involved with. I think that has helped me to have a basic comfort level and confidence when it comes to reading at the keyboard. I enjoy reading at the keyboard quite a bit and sometimes I do feel stressed (you know if I suddenly have to perform and I have to read) and then, of course, it can be either exciting or borderline stressful depending on the material you have to deal with or the people you have to work for. For some people it would just be simply exciting because, you know, you get this material in front of you, and for some people, if I feel like I’m getting evaluated then I feel sort of more stressed.
M: Do you generally memorize the repertoire that you perform or do you generally use music or is it a mix?

A: There is some repertoire that I practiced for a long time and I had time to learn them properly. For that repertoire, I was able to just play from memory all the time. So, one of the pieces that I always play from memory is “Michi”. It was one of the early marimba pieces that I learned when I first started and I probably spent, I don’t know, about six months on it. It was my first four-mallet piece and it took awhile, so that’s a piece that I could always play from memory without practicing; just get up and play, that I could do. There are some other pieces that I can play from memory with practice; so then the category is bigger. Depending on the prep time that I have, I could choose to memorize maybe half of the concert or the whole concert, depending on the repertoire and prep time.

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

Movements need to be consistent and consistently practiced because they affect accuracy. Sometimes, players memorize according to physical gestures, so the triggering of musical passages relies on specific and precise physical gestures.

M: Can you elaborate on the phrase “because they affect accuracy”?

A: I also think that, some pieces I play, I’ve been playing the same pieces for over ten years, and I’m sure my movement and my gestures have sort of evolved or changed because the body changes, but it’s kind of gradual. So, I don’t know if I could tell you that I would do this differently fifteen years ago, because fifteen years ago I was probably ten pounds thinner or I lacked muscle here, so I would do things differently because the physics are different and because people do age. So you do not play the same when you’re twenty as when you’re forty.

M: What about two takes of the same piece, kind of like we were doing today?

A: You know, I wouldn’t think about exactly how I move differently but I might think about how to phrase differently to make it more interesting or I would try different things.

6. When changing pieces in a performance, do you also change your movements? How so?

I prefer to call these “movements” physical gestures since they are tied in with the way one remembers certain passages. They are not (should not) be made up on the spots in order to impress the audience. They are necessary physical gestures in order to execute information and are an integral part of one’s interpretation.

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

Probably not. Use my ears!

8. Are there situations where you find it inappropriate to move while playing? Please explain.
I have to think about this one. I cannot find an example right now.

A: I think when you have really fast notes that are nearby, like in a small area (small-range material that is really fast), it wouldn’t work if you move a lot. It wouldn’t be necessary to move and if you move too much it would usually be bad.

M: Yeah, it could affect your accuracy.

A: Right, right.

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

I usually cannot suddenly move more or less because of the kind of audience. I might move differently because there is an audience and suddenly I became self-conscious. However, ideally I prefer to practice my movements and have them be a part of my interpretation and be able to recall them successfully.

M: Can you clarify the phrase, “suddenly I became self-conscious”? I’m just wondering if you were taught this and do you discuss this idea with your students?

A: No, I think people react to audiences differently, and I don’t really teach about that topic. It is something people learn through experience. People’s responses and coping strategies would be different from how they see themselves…and it’s how they reflect themselves. It’s a little bit different, yeah.

10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

I played piano and flute as a child. I enjoyed playing tabla as a hobby. I am yoga a practitioner and salsa dancer and would like to take these two hobbies more seriously when I have time.

GINNY’S RESPONSES:

Name: Virginia Armstrong
Age: 44
Height/Weight: 5’ 6” / 140
Gender: F
Occupation: Percussionist and Adjunct Assistant Professor at University of Iowa
Place of Birth: Fairmont, WV
Place of Longest Residence: Elkins, WV
Place of Current Residence: Iowa City, IA
Number of Years Playing Marimba and Your Age When You Began: 29 years, started at 15
Brand of Your Marimba: Yamaha
Brand of Your Mallets: Various, but primarily Innovative Percussion and Encore
Grip Type: Independent
Describe Any Injuries Related to Performance: None other than occasional sore fingers.
Describe The Type of Repertoire You Generally Play: Transcriptions and new music for ensemble
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11.
I had performed the Abe and Bach in the past. I had taught the Stout (and heard it performed numerous
times), but never performed it. My prep was spread out over three weeks, but I can’t really give an accurate
hour number.
Repertoire You Have Recorded: Most of my recorded repertoire has been ensemble recordings by West
Virginia University and University of Iowa Percussion Ensembles as well as new music with the Center for
New Music at the University of Iowa. I have also recorded duets to go with a series by Tom Davis.
Education Background: BM in Education and MM in Performance from West Virginia University, DMA in
Performance and Pedagogy from the University of Iowa.
University Teaching Background: University of Iowa, Culver-Stockton College (Canton, MO) Saint Ambrose
University (Davenport IA), Winona State University (sabbatical replacement, Winona MN)
Hobbies: Reading, Running, Gardening.

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

Not continuously, but definitely when it relates to accuracy or communication. For
accuracy I am referring to steps and body shifts that make reaches and difficult passages
more accurate. For communication I think of gestures to show phrasing, and different
stroke types to reflect legato and staccato passages.

M: “legato and staccato” I wondered if you could talk about the gestures in relation to phrasing
and legato and staccato?

Ginny (G): The legato and staccato, definitely, like in the Bach, you have those phrases where
you want to know where things are connected and where they aren’t. Physically thinking about
putting a break between “bum bum bum” (gestures as if she’s playing three notes on the
marimba in one direction), not just audibly but also like you’re taking a breath in there. I think
when you play the guitar thing, the little “blink blink” (motions as if playing two chords), those
are actually harmonics, and it would be really short, so it’s kind of hard without going to make it
a real idea of “this is what it should sound like” (even though I can’t make it sound like a guitar,
you know I’m playing in the right range but it’s not going to sound like a guitar does), so if I can
give the impression so that when somebody looks, they can go, “Oh, ok”…should be more
staccato.

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

For accuracy I focus more on my feet and upper body and for everything else I think it is
just my arms and wrists.

M: I’m wondering how focusing on the feet and upper body helps with your accuracy.

G: It didn’t today (laughs), but I try not to move any more than I have to, step wise, because
when your shifting, your peripheral vision and everything changes when you do that. So, as
much as I can, I try to find where’s this spot that I can find the minimal range in the piece, and
where’s the spot I can get the most range. Then from there, I think about taking a step from left
to right if I have to.
3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

I think some movement can be taught and some things just have to come naturally or it looks over rehearsed. When I teach, I talk about really knowing the music and what you want to communicate and then “conducting” your audience through it. I was definitely taught about movement for economy and accuracy. My high school had a tiny “xylorimba” and when I started college I was pretty intimidated by even the 4 1/3 regular size marimba. I don’t remember a great deal of instruction in movement for reasons other that stroke type otherwise. We worked on that more with other percussion instruments since they didn’t come as naturally to me.

M: Can you elaborate on your response….”conducting your audience through what you want to communicate”

G: Especially when I’m trying to portray the difference, because obviously the marimba sounds like the marimba, not longer or shorter, but people listen with their eyes as much as anything else and if you’re trying to get something across…we lift up the triangle for a reason, it’s not because it won’t be heard, it’s so people can see it. And so, if something, you know, there should be a difference between the Abe and the Bach…and if you want something to be really sharp, more down stroke. If you want something to be more legato, think more legato because then your audience will hear that, you know? And I think they’ve actually done studies where you can fool people that way. You think that the marimba resonates more than it does by a physical gesture sometimes. And when you actually see a conductor and they just do this (motions as if she’s conducting) all the way through, you wouldn’t need him. You could just put a drum machine on and have everybody go. They’re as much as a performer as you. Most of my students end up having to take a conducting class so that they can relate.

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

Phil Faini, Daniel Moore, David Satterfield. In part of my undergrad Dave Satterfield focused a good bit on motion (and economy of motion) for accuracy. Mr. Faini used movement to help focus on sound production as well as communication to the audience. He felt that every performance should be about entertaining the audience, but allowed us to do that in our own style. Dr. Moore focuses a great deal on movement with his students in terms of communication and show as well. My experience with his style more often came when working on multiple percussion pieces rather than marimba.

M: Your teachers have all had very different styles. I was wondering with those different teaching styles, how you decided what approach you wanted to take and what you’ve adapted from them.

G: I guess, more than anything, the economy of movement was a big deal when I was in school. We didn’t even have a five-octave marimba and they were still really serious about, “don’t move around so much.” When I was in high school we had the little xylorimba and I went up there to
audition and it freaked me out the first time (Laughs). I’m auditioning and I’m doing the typical high school thing, walking up and down the marimba, and Dave Satterfield, he was the one doing the audition, he comes and says, “You have a small marimba at your school, don’t you?” He comes behind me and he grabs me (demonstrates how he grabbed her waist) and he goes, “See, just do this...(moves arms back and forth, swaying motion)….go back and forth, don’t walk around behind the marimba. I was like, “Ok”, and ever since then I thought of that. And my teacher was all about, “do what you have to do to get the sound but don’t sacrifice everything.” He talked about the difference between legato and staccato strokes but didn’t get really into it, except in ensemble situations, and the personality end of it, so he kind of let us all be who we were going to be. In some cases, I think actually, some of our students that were more soloists, it was to they’re detriment a little bit. They’re style is hard to watch sometimes.

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

Some would and some may not. The movements that allow for accuracy and sound might change given the size or brand of the instrument and the quality of the bars. Those for phrasing or communication might change subtly given the environment, energy level, or mood on a given day.

M: “mood on a given day” I wondered if you had any examples of any of those three things affecting a performance: the environment, your energy level, or your mood.

G: Let’s say you have an exuberant audience, sometimes everything gets bigger, higher, faster, louder, because you feed off of that, or not, if you’re tired (Laughs). And, of course I try to think of having an audience when I’m practicing. You don’t want to sacrifice what you’re doing in case you get nervous. I think for the most part, things stay mostly the same, but the difference in the instrument definitely makes a difference. At least you have to think more, and sometimes everything comes down a little because you’re thinking harder.

M: Yeah. Did you feel that today?

G: Yeah, I mean, it was different enough. The lower end actually wasn’t as different as the higher end…feeling for things that weren’t there (laughs).

6. When changing pieces in a performance, do you also change your movements? How so?

If they are different styles, yes. For example, The Abe and the Bach are worlds apart stylistically. The more aggressive posture and large movements required to play the Abe excerpt would seem cartoonish when performing the Bach or even parts of the Stout.

M: I wondered if you could talk about why that is or why you think the different styles need those specific movements.

G: It’s like different roles, like if you’re an actor and you’re playing different roles, you’re not going to be the same person unless somebody gives you similar roles all the time. And so, if you’re thinking this kind of music, then you want people to think that it’s that type of music.
Otherwise they don’t really, and especially Japanese music is more dramatic anyway, so you can think, “well maybe I should get into that, that emotional state even to play the piece”…it’s out of my comfort level most of the time, so I actually have to think about it.

M: So you kind of think of yourself as an actor sometimes?

G: Sometimes, because it kind of goes along with being a conductor. They’re an actor as much as anybody; because, otherwise, they’re just a metronome. So, you’re trying to help your audience. And I think, after watching Kevin Bobo yesterday, I think all of it’s forenot (laughs) ‘cuz he’s amazing no matter what he does (laughs). He’s got the ultimate economy of motion.

7. *In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?*

I think general movement can be the same. Meaning that some people have a certain style or touch related to their personality as a performer or even their body type. In terms of communicating or sound, some movements may not give you even the sound you want much less what you are trying to get across to the audience.

M: “communicating or sound” I am wondering why you think that is, that “some people have a certain style or touch related to their personality as a performer”.

G: Sometimes you can see it in people’s personality, just in general. You know what I mean? So, people who tend to be big personalities and exuberant…it kind of comes out in their playing sometimes. They’re the same people that you go, “Those motions are a little big” (laughs). They can get overly dramatic but they’re overly dramatic in life so it carries over. But you find people that are really subtle, say like a Bob Becker or Chris Norton, everything they do is kind of smooth and, you know, it relates to who they are sometimes. Not that you don’t get what they’re trying to portray in the music, but it still comes out in their way of doing it. In a difference, like those two, especially like their body types are different. They’re both a bit lanky but Christopher Norton’s really tall. So you approach the instrument differently when you’re built differently.

8. *Are there situations where you find it inappropriate to move while playing? Please explain.*

It depends on the motion. As a soloist, most repertoire naturally requires a certain amount of motion, although there is a difference in the motion of a xylophone rag and a Bach chorale. In ensemble situations, too much motion can be a distraction though.

M: Can you elaborate on the phrase, “too much motion”? I also wondered if you had experiences with either you or someone else you were playing with or that you were watching, becoming a distraction either in a solo or ensemble situation.

G: Not solo as much. It’s almost a difference of someone playing a xylophone rag and not moving at all…are you having fun? (Laughs)

M: So the lack of movement is the problem?
G: The lack of movement sometimes makes you wonder, “Are you not enjoying this”? Bobbing around to other things…you know the same movement isn’t really the way you would dance around say in steel band. It’s not what you would do to play Bach or Abe or anything; that’s for someone moving around way too much in orchestra. It doesn’t even have to be a percussionist. There’s the one violin player that thinks they have a solo (laughs) you know, that they’re a soloist. It’s an ensemble; we’re playing together.

M: Do you think society has really affected that in us, or that that’s natural to us in what music actually sounds like? Or is it more based on how we think we should move with a certain style of music?

G: Hmmmm…

M: Because we’ve always seen people in a steel band moving around, so we feel like we should do that, or like in orchestra we always see them straight, so we feel like we should do that, but do you think that comes naturally with that style of music or that it’s…

G: I think, well it depends on the person, I guess, you know like in groups, say like a steel band, you would hope that it would come naturally but for some people it just doesn’t because of their personality; they don’t exude that but they have their own way of bobbing their head, somebody else might dance around like crazy, you know but I think in orchestra, though, we are trained to be more restrained…I mean, we all dress alike. You know, when you put everybody in a uniform…yeah.

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

For marimba they would generally stay the same. I like to practice as though there is an audience there. The size of the audience might affect the movements because a large audience generally means a bigger space and it is harder for people to see. That might require the motions to be bigger or more exaggerated.

M: Do you think that’s a conscious change or natural, like if you had a performance in a small venue and then the next day you had one in a large venue, would you have to adapt in your practice session before that other performance or would it just come naturally. “Oh, I’m in a bigger space, I’m going move bigger…”

G: I think it kind of comes naturally. It goes along with the idea that you have to produce more sound if you’re in a bigger space if you’re not amplified. Some things come naturally like that. If I’m in the practice room, actually I have to think about it in the practice room because you’re in a confined space and you’re not going to be in that small of a space usually. So you have to think, “OK, if I’m going make a point of doing this, I need to think about it more because if I’m like 30 feet in the back of the room…

M: you can’t see

G: yeah
10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

I have performed in a wide range of ensembles and settings including percussion ensembles and orchestras to new music ensembles and choruses. Those requiring the most movement were marching band and numerous world music experiences including steel band, African drumming and dance, Chinese drumming, as well as Samba drumming. Each of these has its own unique feel, type of movements, and level of personal expression allowed.

M: Can you define aloud, what you mean by that “permission”?

G: We were just talking about it in relation to steel band; you have a lot of personal expression. You can move around most the time unless you’re hurting the instrument, no one’s going to say very much, but in marching band you have to do a certain thing. You can’t just decide that you like the music and dance around; or in orchestra, same thing. Moving in orchestra is OK, but if you started behaving like you’re in steel band….

M: you might have a problem, yeah.

11. Do you have any additional thoughts/suggestions/comments regarding movement?

I think each performer has to find movements and gestures that are natural to their style and personality/voice as a performer. Trying to be (or teaching someone to be) someone else, will always feel false to the performer and the audience.

M: What do you mean by “feel false to the performer and audience”? So generally in your teaching you’ve tried to encourage your students to find who they are and not prescribe things?

G: Yeah, certain things like legato and staccato strokes, or maybe you need to do this. But some things, you can tell it’s completely unnatural to them, and you can’t expect your student to look like you when they play because it’ll never work. I mean, if you’re doing something that looks really awkward, I’ll say, “that looks really awkward” and a lot of times when they do, it is. They don’t even realize that they’re uncomfortable in their own skin. So you don’t want to make your audience uncomfortable because you’re uncomfortable.

TOM’S RESPONSES:

Name: Thomas Burritt
Age: 40
Height/Weight: 5’ 8”
Gender: Male
Occupation: Professor
Place of Birth: Buffalo, NY
Place of Longest Residence Buffalo, NY
Place of Current Residence: Austin, TX
Number of Years Playing Marimba and Your Age When You Began: 30/10
Brand of Your Marimba: Malletech
Brand of Your Mallets: Malletech
Grip Type: Stevens
Describe Any Injuries Related to Performance: None
Describe The Type of Repertoire You Generally Play: Contemporary
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11. Had played Bach, and Stout. Needed to learn Abe
Repertoire You Have Recorded:
All Times Identical: Thom Hasenpflug
Variation on a Theme by Paganini: Paul Dickinson
Scorned as Timber, Beloved of the Sky: Ellen Lindquist
Molitva: Stephen Barber
Alabados Song: Pau Bissell
Education Background: BM/BS Ithaca College, MM Kent State Univ. DMA Northwestern Univ.
University Teaching Background: 4 years Univ. of Central Arkansas, 10 years University of Texas
Hobbies: Technology, blogging, wine.

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

I have thought about my body movement (in the past). Generally, now I don’t have to as much. In my daily warm up routine I review most the movements I’ll need at any given time when playing a piece of music. I’ve found that at this point it has come automatic when I’m in a situation learning/performing a piece of music. This has mostly to do with how my entire body moves when I play.

When I consider upper body movements (waist up including hands) I use, as a guide, what I call my 6 M’s: Make a Musical Motion that Matches the Musical Moment. This too has become automatic in my playing the more I employ the idea and mostly is a natural extension of the musical thought in my head at that moment. I use this to indicate articulation mostly, trying to indicate differences between legato, staccato, marcato, and things like slurs. In the Bach for example, to show a longer note I might stay down. To show a slur I’ll stay down on the first note and lift as I play the second.

M: When did that change occur, from having to think about it to not having to think about it?

Tom (T): Some of the exercises I went through, the arpeggios for example, that I used to warm up, that I do every day…I designed my own system to review many of the motions that I can generally make. So, when I’m done warming up eventually, I’m not just warm, I’ve gone through the whole physical part of playing the instrument too. The way I shift left and right: the arpeggios are designed to move at a certain speed up and down the marimba that is common in pieces, so any foot work you do, you work on it, not just in the music you’re playing; but in the exercises; that’s the idea, that if you do that long enough then you don’t really have to think about how you’re moving behind the instrument because you’ve reviewed it for years. So I guess the best answer would be, if I look at my students (because I teach them this as well) if I had say a certain amount of time, a time line of how long it takes, I’d say anywhere from six months to a year, before a lot of those motions become second nature, where you don’t have to think about it. Often with that, we’re learning pieces as we’re learning that, so there are situations where we have to say, “OK, move this way here”. But I can always tie that specific movement down to something. There are certain situations, like in the Sery, where I have to reach far, like we often have to do. What I learned recently is that most marimbists tend to lean
over in order to reach. I found that if I move back and lower my whole body down, that I can reach a lot further. So, I do a lot more of this movement now (stands up to demonstrate the knee bended position) where I’m coming down, and I limit what I’m doing here (puts hands on hips), and try never to go left or right or forward, just move this way forward, this way back, this way left (steps with foot) so by bringing the body down, it actually give you a lot more this way. So that I plan out in situations where I have to be… like that, after the very opening triplet thing in the last one, it’s like a low A, B, and B, C in the top, you’ll notice on the tape, I just go way down. It looks a lot better too, to the audience. Then they can see this (shows head facing forward and body erect) and not that (shows head looking down and leaning forward with body). So, it has other benefits too.

M: The Six M’s I was really interested in. I was wondering if you could talk about how you came up with that and how it’s effective in your playing and teaching.

T: Yeah, I love to conduct, and…

M: I’ve seen you conduct, actually, at PASIC.

T: Yeah, and I see myself, someday, hopefully doing more of that in some capacity or another. So, I often think like a conductor. Not just in motions…we can address that since that’s what most applicable here but that’s what conductors do, right? The motions they make, that’s what you’re going to play back as a member of the orchestra. It’s even before the motion happens, right? If I’m starting in a rhythmic, louder piece, it’s not going to be (motions as if starting a lyrical and slow piece). It’s going to be (motions as if starting an intense, rhythmic, louder piece). Even the prep is going to match what’s about to happen. So, I think a lot, as a performer, what this communicates as a conductor. I think it really can help a performer communicate similar things. “Here’s what’s going to happen”. So, I think that’s one of the ways I’ve come up with that. I’ve looked a lot at pianists too. What they do is very similar to what we have to do. In regards to articulations, showing articulations, they’re really good at that. They have the same problem; they do have a sustain pedal, right, but even if they’re not sustaining something with the pedal, they’re holding the note down (demonstrates holding the note down). And I know if they release it, it stops ringing, but even if it’s a longer note, even if it’s a faster note that they want to feel length with, they’ll stay down. So for me that’s, you’ll see this in the Bach, I think that’s the best example of that… I don’t know how many different interpretations you’ve heard of that and that you’ll hear throughout the day, but you’ll probably see a lot more in that than what I did, and I’ve done it that way, but I think…that was a big piece that got me thinking about the motions, meaning if I’m not going to roll like I didn’t, how can I apply length? So, most of my study has to do with that; if I want this note to be long, to make a motion (puts arm forward). It shows I’m committed to that length there (points to head). So everything all starts right there (referring to brain). If I have a clear idea of what that musical sound should be…as I hear it, I have a clear idea up here (refers to brain) of what I want it to sound like, whether it’s short or long. That’s what drives the motion, essentially. So, the 6 M’s is really a way of teaching that concept. It’s beginning that process, because you could teach it both ways. You could teach students specific motions for staccato and legato. That’s good, that’s important, but really it’s better if it starts in reverse. It’s better if it starts here (brain). I want to slur this to there (motions hand to side), so I’m going to hold until there and obviously it’s a much faster way of processing that. It’s really fascinating when it comes to studying muscle memory, the effects of muscle
memory. I try to learn pieces already thinking about how I’m going to play them up to tempo because that motion’s going to be very different, or I might change that motion. If you think about the way muscle memory works, that’s how we remember notes, right? And if I’m only familiar with one way, a more mechanical learning note way…So I’m very interested in that, and I don’t know the answer to that, whether it’s good to start already with an idea of how you’re going to play something and start learning it with those motions or if it’s something that you change along the way. So there’s a lot of work that goes into that that I don’t understand. The other way I think like a conductor (in terms of orchestration), I try to orchestrate in my head the way I want something to sound. I’ll think of the right hand melody in certain areas like a woodwind thing, or whatever. That really helps me with that 6 M concept of Making a Musical Motion to Match a Musical Moment. If you don’t know what that moment is, you can’t match it to that. If the moment’s big, or if it’s thick or thin, or if it’s pizzicato versus heavy bass or whatever. Does that make sense?

M: Yeah

T: As clear as mud probably (laughs)

M: There was one thing I was going to maybe have you demonstrate. You said in the Bach, to show a longer note you might stay down. To show a slur you would stay down for the first note and then lift for the second….

T: Sure, I might need the music for that. Yeah, so the first two measures (at the marimba now). Beat two is a chord in the music, so after the octave we get to (plays chord and lifts slower), so there’s length. This is almost a slur to there (plays next note), so I come up. So, (demonstrates again). So if I want to slur (plays first way), it’s going to be shorter than (plays second way). So I guess between the hands it’s sort of a down up. It’s mostly really up the first time…(continues playing to demonstrate). So then the length is sort of (pulls up mallets slowly) rather than this sort of motion (lifts mallets quickly and abruptly). So what do I do from here then? Because that’s not really what I’m thinking in my head so this (plays first chord) has to be connect to (plays next note), commit to it. Make sense?

M: Yeah, thanks for showing it.

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

A few thoughts: In regards to my lower body. I will try and eliminate ALL movement involving the torso (no bending forward/left/right. To reach left or right, for example, I lower my whole body at the knees and then reach. This is beneficial for large reaches left/right. When stepping, I avoid small steps whenever possible and try to take “lunges” that cover more ground. In regards to my arms, I avoid whenever possible doing the chicken dance (elbows out) as there is no power there. In regards to my stroke, in Stevens grip all movement generally comes from the wrist, but, I do use arm to create weight transfer, allowing power that doesn’t come from stroke height and hand tension. I try and play a “default legato” whenever I don’t need/want to color a sound. This involves ultra
relaxation from the fingers in the stroke. Fingers tense to produce color. This works best with a “multi-tonal” mallet.

M: Do you think fewer, larger motions in the lower part of the body is better than more frequent smaller motions?

T: Yes, can I elaborate on that? So, you know (goes to marimba) all of my movement…most of the time in a section that is moving a lot, I put my weight on one foot or the other. That may sound a little weird because that’s not really a stable environment, but what’s going to happen is, rather than, here (stands and moves small step over) and moving like this a lot, I’m going to stay, and a lot of this is based on how important it is to play notes that aren’t in front of you all the time. That’s the problem with, if I’ve got to play this (stands at bottom end and plays chord), I don’t have to be standing there to play it. I can play it here (stands closer to center and leans body to play in low end). So, I’m going to limit, at all possible, from going any further than I need to, in order to play that note. So, then I have this much space that I don’t have to worry about moving in (points to lower end area). So you rarely will find me here (low end) or here (high end), it’s always between here (middle) and here (middle). And in between here and here (same middle range) is going to be bigger motions and if I’ve got to go back, I’m never going to come back here completely because that means I have to shift back here (points to right leg) to go that way (motions to left)...When it’s slow, it’s more difficult because that’s when we find ourselves wanting to do this (tiny steps to the send, almost a shuffle). That’s necessary sometimes; it’s hard to avoid that at all costs.

M: So, to explain the “why” on that, just for less distraction or…what?

T: (nods yes) Less distraction… to me, we’ve got to minimize as many movements as possible for efficiency. Most of my movements, especially here on the keyboard because we’re talking about lower body...so, if I’m going here...like in the arpeggios, I could move a bunch of times, covering that much room, but I don’t (plays arpeggios) until there (mid to top range of instrument at highest part of arpeggio exercise). See how much this is moving without my body (refers to arms) and that’s just because I want to make it as simple as possible and movement as less as possible. Then efficiency here has mostly to do with...actually I don’t play very much in the center of the bar, because this is a very awkward movement (moves arms forward and backward as playing on centers of bars with all four mallets at the same time moving between accidentals and naturals). So I’m very much of an edge player and then here, instead of doing a lot of this (moves arms like a chicken), I don’t like this either. I’ll push...I want to keep my elbows in as much as possible because this doesn’t give me much power (shows chicken arms again), coming at it from here or way up here (elbows out and arms raised), so I want to push a lot and build...

M: So is it from the shoulder or from the core, or…?

T: I guess from the shoulder (plays arpeggios), so I never get out this way (elbows out again) and there are times we have to, but I try to limit those things...there’s always exceptions, right, but I always try to limit that as much as possible. And I do think it has a huge affect on how the audience perceives the performance. Every great musician I know looks very comfortable when they play, and the instrument’s part of them almost. It’s not this awkward thing, or extension,
it’s not this alien thing. There’s some meiosis there, some connection. Hopefully that’s what people think when they see me play, is you know…it’s barely thought out and contrived but it shouldn’t come across that way…it should be this natural experience.

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

It can be taught and needs to be worked at until it looks natural. I was trained but only as it related to lower body movement. The areas that I teach that are different than how I trained have mostly to do with efficiency. This means mainly larger steps, body position always lower to the instrument, and low, low stick height.

M: I wanted to ask you, do you think there are some students or performers that, it never will actually be natural? They might be able to improve how it looks but in terms of…

T: Yeah, I think it’s like an athleticism thing, so some of us are more athletic than others. That’s just the way it is. I found for more athletic people, it’s a little easier. Everybody has to overcome the weird dichotomy that a natural motion is actually hard to learn. That confuses me sometimes. When you see athletes or other musicians…I mean, what’s more physical than this (points to marimba)? I mean, most people sit when they play and most of their movement is here maybe (pretends like playing clarinet with fingers wiggling). That’s why I study pianists a lot because, even though they’re sitting, they still have lots of ground to cover. But it’s just that idea of how long or hard you have to work at something… and a motion that is actually very simple when it’s learned the right way. Why is it so hard to learn these motions…I guess that’s the question I have. I think some people are, you know, if you’re more athletically inclined, I found, they’re easier to learn; they come more naturally. And if you’re less athletically inclined, you have to work at it more. And there’s always going to be that difference, to some degree, between those two examples, and the person who’s less athletically inclined is going to have to work longer at it. And it’s never going to quite get to where, you know, someone else who’s more athletically inclined has it. Really though, what’s most important in that discussion is, the way it looks to the audience. It’s got to look inviting. It’s got to look reassuring. And it’s got to look trusting. And I can think of several marimba players where that doesn’t happen, where I don’t even want to look (laughs). It sounds great, so somehow they overcome the issue of sound and tone quality and even musicality but it’s hard for me to watch them because it looks like…it doesn’t look natural. Some of them have looks of terror on their face. And I’m feeling that in my head in my body continually, believe me, but hopefully that doesn’t show in an obvious way. So every motion I make is sort of centered on that idea of, “Is it natural? Is this what the body does naturally or is it natural to the body, even though it may be difficult to learn? What’s it communicate? We’re ultimately performers…One of the other things…it’s not what you say but how you say it. I always use Billy Mayes. He’s the guy that sells stuff…he’s actually dead now, tragically, but the main difference of course being, he’s selling junk that you don’t need but you buy it anyway. You watch him at least for way longer than you thought you ever would. It’s not what he’s selling; it’s how he’s selling it. With Bach, that’s good stuff there; it’s not Sham Wow you’re trying to sell (laughs), but how you deliver it is going to make all the difference in the world. It’s not going to make it a worse or better piece of music but it’s going to make it somewhat more meaningful
4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

Gordon Stout: Attention here was mainly bar placement efficiency. Michael Burritt: Attention here was primarily lower body movement (large steps and balance).

M: So how do you kind of balance that idea with also the idea of just efficiency, and not doing too much extra? I noticed you talked about how some of your teachers focused on efficiency and I wondered if they had talked about the show aspect and your thoughts on that.

T: Yeah it’s interesting…you could take what I’m saying here, I suppose if you thought about it a certain way, it would contradict itself…you know movements that are extraneous…We’re not trying to make movements that are extraneous but at the same time for communicating we’re making movement. But I think the 6 M’s thing is what I’ll go back to because at first, as a student, and for me it was this way too, at first when you start grappling with this, it does look unnatural, it looks extraneous, it looks contrived or planned, but that’s not the end goal. The end goal is that it’s natural, perfectly appropriate, and I wish I still had a teacher to evaluate this in my own playing now, you know as I’ve been obsessing over these issues for a long time, because I would never want to look showy. I would never want it to look like it doesn’t serve the music, so that’s the real trick is if it’s coming genuinely from the way you’re hearing it up here (brain) then it should not have that effect of looking more showy or somehow fake, because it’s not about that…the easiest analogy I can draw from this is the whole frontline ensemble for a drum core. Part of it is that they have to make these big motions because people are far away. If you look close up, there’s all this very planned motion. That’s opposite. That’s exactly what you don’t want to see because that’s totally extraneous, but I think a lot of these motions in my own playing, since I can only speak to that really, I mean hopefully they’re not extraneous, and actually they allow me to be efficient somehow. I don’t know, it’s a tough question, but I think the main issue is if you’ve got a very clear idea in your head about the type of sound you’re making, that’s the only way to check that, to make sure you’re not going to go across that line too much, too big of a motion or whatever. A lot of that stuff’s still mulling over of course but that at least gives you a guide. I think one of the things that students really struggle with is that they don’t know how to make motions. We’re getting kind of back around this issue of articulation because that’s what we were just talking about, right? Showing length, showing connection to a note with a slur for example. As percussionists, we have….most composer’s don’t treat us equally in those areas. They write music…the good ones do, the good ones actually write tenuto, write staccato, write slurs. But a lot of them don’t even know we can do it. We’re against the eight ball as far as articulation goes, because we don’t have…obviously what we play is very attack-heavy if we think about attack and length we think about articulation. We actually have very little control of both of those things that really make up most of what articulation is….especially the length issue when it comes to this instrument. I think that need…or articulation by itself is an integral part of music making and so how can we discount it? But a lot of us have or we don’t know how to address it but we have to. We have to figure this out; and I see that as an integral part of this topic right here because if we don’t show the motion, especially if it’s a short note versus a long note, it doesn’t sound like anything different from the other. If we can at least communicate it through appropriate motion, then that gets us there. I think that’s what makes my interpretation of the Bach kind of work. If you don’t do any of that, you’re not left with much…in the communication of what’s there.
5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

They would probably be similar, although not necessarily identical. The most variation would occur in the upper body, especially in the hands. This is due to the fact that I try not to play phrases and sections the same. Variation depends on a variety of factors, but has mostly to do with how I’m feeling that day, that moment.

M: You talked a little about mood, how mood can affect how movements might look from one performance to another, like what we did today with two takes, because I’m wondering if your movements would be similar or the same each time you played something and you mentioned how mood would affect that; any examples of that?

T: Actually, yeah, if you’ll notice in the second take of the Rhapsody, I found myself in a different position, right after the introduction, right before I start the “d” “a”. There’s a space right in the middle in the excerpt basically, right towards the beginning where I stop towards the bottom and I’ve got to go back up; and I remember thinking “Oh, I’m in a very different place now than I was earlier”. (laughs). So, I think if you just watch those two takes, you’ll see what I’m talking about, between the first 30 seconds of each or maybe not even that much in between, you’ll see that I end up in a different place each time and I have to go back. So, that’s an example of….I didn’t plan that, it just happened that way and after the fact, I realized it. So, I guess that speaks to the fact that I don’t really plan the same thing out every time. It’s not at all calculated; I mean obviously I don’t change so far that I’m completely lost in what to do, but I think music making, for me, has to be different every time.

6. When changing pieces in a performance, do you also change your movements? How so?

Not sure the answer to this, except to say that hopefully my movements will match the mood of each piece I perform.

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

Don’t consciously make a decision other than to say that my motions in general would match the overall and specific moods of that particular piece. So, there should definitely be a connection.

8. Are there situations where you find it inappropriate to move while playing? Please explain.

The moment before the piece starts is probably a moment that is inappropriate to move. In fact, any motion is extraneous when it doesn’t serve or support the music. This can be awkward to learn but once it is it looks completely natural. I compare it mostly to the way a conductor moves (a good one, that is!)

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?
Generally no. I practice performing mostly when I practice. I may turn it up a notch in a performance. For a non-percussive/musical audience, I will likely increase my movements. I won’t change them; just enhance them to be more obvious.

10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

I grew up an athlete and recently studied Tae Kwon Do. This had a dramatic effect on my tone production as I sought a way to play louder while at the same time protect the brightness of my tone. It taught me about where true power comes from (weight transfer). This had a dramatic effect mostly on my stroke. Would like to talk more about this issue. I’ve never had any drama training, but I consider the art of performing as very similar to acting.

M: You said you wanted to talk more about things that you’ve done that have been music related or movement related. I asked you to talk about your background and you talked about growing up as an athlete and doing Tae Kwon Do and it taught you where true power came from, weight transfer, had a dramatic effect mostly in your stroke, and you said you wanted to talk a bit more about that.

T: Yeah, I don’t know if it’s apparent in my playing or not, but I like to stay, especially when things are moving…slow tempos I’m less worried about staying low to the keyboard, but when things are busy, I try to stay as low as possible; not only because hopefully you’ll hit more right notes, but what I learned from that is timbre stays way more focused the lower you stay to the keyboard. I figured that out and it sort of hit me pretty hard; then I thought, “Ok the problem is, I’ve got to swing harder to play louder”…so now, when I talk about power it’s mostly from weight transfer. Velocity and tension get us to that point where timbre starts getting really light. And every time we play louder, timbre shouldn’t get harsher. Those things should be completely separate or they should be…they can be connected and I use them in that way but they should be independent of each other but that’s difficult to do if you only get louder by swinging higher and faster or changing your grip. I practice a lot at trying to find other ways to play louder without using height. Most of it has to do with what I learned in Tae Kwon Do, which is “focused power”, like “weight transfer”, something’s that’s just small, like a whip idea. When they talk about punching, (gets hands in punching position) sometimes I use this with my students and they think I’m going to punch them (laughs). You know, it’s not one of these (swings right arm back and around at shoulder level in a punching circular motion). This is very unfocused power; it’s very big and clumsy. What they teach you is to put this weight up here (hands at side in punching motion) and then to transfer weight, so it starts in the hips, it’s a whole body thing, but the hips spring forward and then the shoulders spring forward, and then you move your body forward, and at the last minute you spin and what the spin does is it takes all that momentum and throws it forward. And then there’s the issue of where you’re striking that individual (points to heart). If you strike them right here and do it perfectly, you can actually stop their heart and then they’re done (laughs). It’s because the punch doesn’t just get absorbed; it goes through; that power goes through right wherever it’s striking, because it’s being thrust and pushed forth in a way that focuses it just a certain way which this can’t do (arm
around in punching circular motion) This can’t do that. What that means for us really mostly (elbow)...it’s mostly arm, the wrist always moves of course but it’s this idea of the arm coming down like (throws arms from elbow) that so the velocity doesn’t come down until the absolute last minute, and that’s this part of it (punches forward as if could stop someone’s heart), right? By the time that happens, there’s all this energy that’s being built up and so the stick makes contact as it’s releasing all that energy before it really even gets fast at all...and then you get this much bigger tone as opposed to a sharper tone. I like to think of volume like this (horizontal line), not like this (vertical line). And that’s all motion related. That’s all right here (points to forearm) down (points to wrist/fingers) and then there’s a little bit that I do with my fingers for gripping. A little bit of tension in my stroke actually helps me get some power; and because it’s not moving so fast, it doesn’t get me in trouble from a timbre perspective. Hopefully it relates.

M: Yeah totally

T: Because I wasn’t sure if we were talking about full body movement or what I’m doing in my fingers

M: Everything, we’re talking about everything

T: So that’s something I hope you can incorporate somehow

11. Do you have any additional thoughts/suggestions/comments regarding movement?

Significant thought has gone into learning motions/movements that support the following:
Injury free, long term playing
Overall body relaxation
Internal musicianship/expression surfacing
Motions that communicate specific musical articulations
Every motion made supports some musical aspect of the performance
Motions that communicate and interpreted musical thought

PIUS’S RESPONSES:
Name: Pius Cheung
Age: 28
Height/Weight: 5’10/150
Gender: Male
Occupation: Performer/teacher
Place of Birth: Hong Kong
Place of Longest Residence Hong Kong
Place of Current Residence: Eugene, Oregon
Number of Years Playing Marimba and Your Age When You Began: 9 years ago, 19 years
Brand of Your Marimba: Yamaha
Brand of Your Mallets: Vic Firth
Grip Type: Burton
Describe Any Injuries Related to Performance: None
Describe The Type of Repertoire You Generally Play: Bach, my compositions, standard rep
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11.
Mexican Dance, 15 minutes. Abe, 15 years. Chaconne, 10 years, My composition, 1 year
Repertoire You Have Recorded: Bach/Goldberg Variations, My compositions
Education Background: Curtis Institute (B.Mus) Boston Conservatory (Artist Diploma), University of Michigan, (DMA)
University Teaching Background: University of Oregon
Hobbies: Skydiving

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

Usually not: I think relaxation in my neck and shoulder if I hear that the sound is getting tight. If I’m missing notes, as G. Green said, “keep your hammers low.”

M: You said, “usually not…” and I wanted to ask why the neck and shoulders out of all the body parts?

Pius (P): It’s just, in my experience, it starts there. I teach it but I’m the worst offender of it also. I tell my students to stand up straight and when I play a lot of times I find myself crouched (haunches over), but even if I’m slouched over a little bit, the neck and shoulders are still kind of loose because if it’s slightly raised here, it leads to some kind of restriction (runs hand down arm to fingers) all the way down to the grip, and that leads to stopping energy that you used and that, I think becomes effortless. I mean that because it becomes not worth the effort because putting so much energy towards it and only half of it is coming out, whereas, if all of this around here (points to back of neck) is loose, it can really control how much energy you put into it. It’s all shown. It’s not wasted. Wasted is the right word!

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

Upper body, chest, elbow, neck, shoulder, and grip

M: You mentioned all these areas: upper body, chest, elbow, neck, shoulder, grip, and I wondered why not the lower body?

P: Because I sit

M: Do you think about your feet though, or anything, or the sliding?

P: No because I realized this later, after I started doing the sitting thing, it just started as a joke, yeah it just started off a prank…

M: Can you tell the story?

P: Well, first we were drunk (laughs), and then the first time I actually did it seriously was when I learned the Goldberg Variations and I like to practice slow, and the piece in tempo is about an hour long, half tempo is two hours, and my knees locked and got tired, and there was an organ practice room right next to the marimba practice room at the time at the Boston Conservatory, so I just grabbed the organ bench and started sitting down for practice, and within the first five seconds I’m like, “I feel home”, and it could be because I grew up as a pianist also and something about it…but later I started feeling more centered and everything seemed to be more
placed, and that was what I was lacking before because I never really learned how to stand properly, I mean, naturally, ideally we should be stood up shoulder’s width and then the weight is even distributed, and it’s important to keep the center….and I realized, especially when I have stage freight or when I have performances, naturally my feet kind of wander a little bit and I lose my center and sometimes it just crashes and after the sitting thing it becomes much easier for me. But that is not to say it works for everyone because none of my students do it and I don’t make them do it, unless I see a problem and I haven’t seen anything.

M: And you always use a long bench?

P: Yeah, because I have to slide up and down a little bit

M: Yeah, I saw you perform at PASIC a couple years ago, maybe last year even, and sometimes you would stand up and then sit back down or slide.

P: Yeah, for really, really heavy moments, like the end of the Abe, there are a couple notes where I really want more weight, then I need to put my body on top of the note and then I’ll scooch up a little bit and (pretends like playing big weighty note, almost sitting on it), and it’s a lot of sliding. It’s not a perfect system yet.

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

Yes. Trained to only move for sound, no excess motion that has no effect on sound or distracting to music.

M: Sound…Do you employ that and why?

P: I was actually a bit confused by the question…do I always move when I play? Yes, I have to move when I play…

M: I guess I’m referring more to the

P: the other part…?

M: Well and to anything that might be additional to actually producing the sound.

P: No, I try to avoid that at all costs. I don’t do any of (wiggles arms above head in flowy motion), at least I don’t think I do any of the wiggle thing, and then you play the note and then (wiggles arms above head again)…unless it’s sort of like the drama/music kind of pieces where of course movement is part of it, but I don’t see any point of making any motion that doesn’t have to do with the sound, that’s just the way I was taught. I think it was sort of in the tradition that, you know we don’t do anything that’s not necessary.

M: And with your students, have you passed that on?

P: Yeah
M: Do you talk about it or is it just kind of unsaid?

P: If I see some annoying movements, I just tap them on their shoulder...”Stop that”. (laughs), but you know I don’t…I guess that’s kind of old school maybe, but if it doesn’t have anything to do with the sound, then “stop that”.

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

Don Liuzzi, Nancy Zeltsman, Michael Udow. Didn't really talk about technique on marimba. But Liuzzi did teach me a lot on timpani and tone colors that I applied to marimba, as all percussion playing is related. Also, Eugene Skovoronikov, my piano teacher.

M: I wondered how your piano background has affected your marimba playing.

P: Right, in terms of technique...maybe...in terms of musicality definitely that was a strong background for me. But I don’t really think about it, but I get a lot of comments that I play marimba like a piano. I don’t know why. I understand why but I don’t know how it changed from...maybe also part of it is the staying low thing, but that really related to the George Hamilton Green, you know, Rule #1 which is what Don Liuzzi said, you know lesson #1, stay low.

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

Similar each time to a certain extend. But each performance is different of course, therefore movements are never the same.

6. When changing pieces in a performance, do you also change your movements? How so?

Depends on from whether the change between pieces are a 'breathe' or a 'continuation' of musical thought. But I change mallets less often than most, so not much movement change I think.

M: I was also wondering between different excerpts you played today how would you describe the change in movements between each piece?

P: Today, that’s different because I didn’t play the whole piece, but you know I try to, I guess it naturally comes out that...”Mexican Dances” is....because I know Gordon pretty well, and I know Eric Sammut pretty well, and my most memorable performance of that piece was Eric playing Gordon’s 2nd Mexican Dance with his version of it, so naturally I think that creeped in a little bit. But naturally, me and Eric’s playing and musicality and thoughts are pretty similar and we’re all pretty surprised when we first heard each other. So that kind of creeped in and I don’t know if that affected the physical.... and what else...lighter maybe. And then the Keiko Abe is naturally heavier and that’s a piece that I, that’s been very dear to me since I was 17. I played
that for my University of Toronto audition, I remember. Yes I did. I played the 4.3 octave version. I hope I didn’t crack any bars (laughs).

M: And then for the Bach?

P: For the Bach, I think it was more “me” maybe…because that’s an arrangement. That leads to the whole discussion of arranging a piece of music for the marimba, or whether it’s an arrangement or adaptation or transcription, so let’s not go there.

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

I focus on tone color though movement. Not the other way around.

8. Are there situations where you find it inappropriate to move while playing? Please explain.

End of piece and beginning of piece when silence is part of the music

M: “Silence”… I wondered if you could talk a bit more about that?

P: Sure. I didn’t really show that just now because we’re playing excerpts but in real a concert, the moment you step on the stage is the beginning of the performance and the moment you get to your instrument, you’re getting ready. That’s already the beginning of the piece, you know before the ink starts, so if you’re just kind of fiddling (rolls up sleeves) and then you start playing, nobody’s going to pay attention to the first five, ten seconds or more. And also at the end of the piece, you want to hold that, and let people think about what just happened for a few seconds and it depends, if it’s a three minute piece, or a show piece, you bang the last note and people go (clap, clap, clap) right away, but if you’re playing at the end of a... I was gonna say a Mahler Symphony, but that’s not true, a lot of people stand up and clap right after that too. Maybe like the end of Mahler 2 or something...something that’s dramatic and doesn’t end with a bang; you want to hold the attention there, so you know, you don’t break music.

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

Needless to say, most people play differently in front of an audience than in a practice room, feeding off the energy from the audience and having a musical/spiritual dialogue with people. Perhaps the movement is different also, but I think the music-making process is different in the case with an audience (2 way dialogue), practice room (one way).

M: Can you talk a little more about that?

P: Yeah, I think it comes naturally, if you’re in the practice room then you’re thinking more about practical things to work on, but with an audience you’re having a dialogue, once the work, the preparation is already done, there’s nothing else you can do, you’re focused on communicating. At a certain point, you know you’ve got to just put down your studies and music and play from the heart and realize that that’s the concert time. Before that, you do the
prep work and make sure it becomes an educated performance. At a certain point, the music is about the communication.

10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

Piano age 5. Mostly classical. Some jazz background in high school, but not trained.

11. Do you have any additional thoughts/suggestions/comments regarding movement?

My new method book, Colors, focuses on how to draw different tone colors though different stroke aspect combinations.

AYANO’S RESPONSES:

Name: Ayano Kataoka
Age: 36
Height/Weight: 5.0 inch/90 lb.
Gender: female
Race: Asian
Occupation: Percussionist
Place of Birth: Chiba, Japan
Place of Longest Residence: Japan
Place of Current Residence: USA
Number of Years Playing Marimba: 31 years
Brand of Your Marimba: Adams
Brand of Your Mallets: Adams and others
Grip Type: cross grip
Describe Any Injuries Related to Performance: None
Describe The Type of Repertoire You Generally Play: contemporary music
Repertoire You Have Recorded: chamber music (Crumb, Cage, Smith etc.), flute/percussion duo
Education Background: Yale School of Music, Peabody Conservatory, Tokyo National Univ. Fine Arts/Music
University Teaching Background: UMass Amherst (2008-present)
Hobbies: jogging, stretch (Yoga), cooking, reading

Ayano (A): What’s the choice, why did you choose these (excerpts)?

M: Those three? I was trying to choose varying styles and I thought they were fairly standard, something you guys maybe would’ve played or taught before

A: Yeah, actually I’ve only performed “Mexican Dance”. Abe’s piece, I mean everyone thinks that, since I’m Japanese, I must’ve done Abe’s piece but actually, opposite, since she’s Japanese and it’s so much her own style, I kind of hesitate to do that (laughs).

M: Ok, so you had never played the Abe or Bach before?

A: The Chaconne, I have not, but I had done some other Bach before.

M: Wow, thanks for learning it
A: Oh yeah, it’s fine

M: I was wondering around how much prep time you had for it,

A: I think I had two weeks or something

M: And then the Mexican Dance you had played before?

A: (Nods) Before, yeah

M: So just working it back up in those two weeks?

A: Right, right (laughs)

M: Ok, and did you say you started when you were five years old?

A: Yeah

M: Wow!

A: So, you know my age (laughs)

M: Wow

A: That’s unusual, I guess

M: Did you do four mallets at age five?

A: No way! Two mallets first, and then 13, 14 years old is when my teacher started to say that you should figure this out (four mallets)

1. If movement is split into types (essential, expressive, choreographed, rhythmic, and/or other), please describe the types of movements you incorporate, when you incorporate them, and why.

When there is a space between sound and sound that I create, I tend to consider how I would like to treat the moment, and one of my options to choose from would be incorporating some type of movement, how I move one to another. Types of movements can vary, and I think that it depends on how you feel at the moment.

2. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

Sometimes. I try to be sensitive with my senses (particularly perceptivity and hearing sense, I think) in every moment while I create a sound, and try to respond to it and see how I want to connect (or possibly disconnect) between sounds, etc. I try not to create any
movements that would distract from the musical phrase or add extra effect that could impact more than something that it is supposed to be.

M: I wanted to ask you a couple questions that didn’t make it on the initial list; one of them is: “When/if thinking about movement while playing, do you focus your attention on any particular areas of the body (i.e. Feet, shoulders, etc.)”

A: Hmm, did you have any observations?

M: (laughs) Yes, I’m wondering what you think though.

A: Well, I try not to move big (moves feet). I try to move like the…(grabs shoulders) I’m not sure though….

M: Or are you consciously thinking about any parts of the body while you’re playing?

A: Not really, it comes naturally

M: Mm hmm…

A: I’m just curious though, what did you see?

M: Well, I actually saw a lot of footwork, which was cool

A: I don’t think it’s a good habit though

M: Personally, I liked it

A: Thanks (smiles)

3. Were you trained to move while playing? If so, what type of training did you receive?

Not really.

4. Who have been your marimba teachers? Please describe their approaches in physical gestures in regard to their teaching and performing.

Teachers: Robert van Sice, Michiko Takahashi, Makoto Aruga, Tomoko Kubo

M: Can you elaborate?

A: Right, especially when I… I think I answered the first one, visualizing like, when movement happens that is when you move, when there is a space, so I think how you, especially when you have a rest, I think that’s the most important moment, like how you move. Rest can be rest or stop and freeze a moment to…and then onto another. Or kind of connect, continue smoothly to another but still silence. So I think there are three kinds of movement that you can use. And Mr.
Van Sice was the one who kind of mentioned about that as far as how you treat the silence in terms of physical movement and that really makes sense to me.

M: Is that something you’ve kept

A: Yeah, that’s part of, that’s really the first time that the involvement of movement is actually part of your performance, so I think that and I kind of really take that into account…especially if I’m there with silence.

5. **If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?**

Generally speaking, if your performance is set to replicate what is written on a score, your performance is mostly controlled by the information that you have on the score. That would guide you to perform a piece to a certain way each time, and I would guess that your movements would be somewhat similar each time eventually.

M: Would you relate this to choreography or more natural?

A: Yeah, again, I think, natural reaction, moment by moment, and even if I do, it wouldn’t be exactly the same, but at the same time I think it depends on where you want to perform, venues that resonate a lot and if you want the sounds really sustained or longer than usual, or sometimes when you want to take more time to do a long section to another, and that creates sometimes difficult movement, which makes sense, because it would take the rest longer, because you either freeze or don’t move at all or maybe slower motions (moved arms slowly) to another or rest (laid back in chair). Rest is one kind of making no sounds. You know this connects from this section to the next section. That’s the times when I really care about movement, how I try to think about a piece of music, in context.

6. **When switching pieces in a performance, do you also switch your movements? How so?**

Unconsciously I would change my movements because each piece has a different character. It is as if you are taking a different role as an actor/actress.

7. **In your opinion, can any type of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?**

I don’t know the answer. Some would be appropriate, and others may not be appropriate. Primary is what kind of sound you would like to create, and the movement should come along with it naturally.

8. **Who have been your role models, and how do they move when they play?**

I like watching dance companies’ shows or watching movies. I would rather get some idea from different type of art forms. In the music field, I would be interested in learning movements from conductors. Their movements are inspiring.
9. Are there situations where you find it inappropriate to move while playing?

When the movement or gesture is high-flown, extreme, or exaggerated. When the movement is out from musical contexts, or is not related to any type of quality of the sound.

M: How does the audience play a role in your movement?

A: Different type of audience… and I change my movements…? Don’t think so though.

M: So if you’re playing at PASIC or…

A: Well, gestures sometimes help actually. Yeah, it could be, actually. Good point though, because when it’s a very big audience and people are far away and might not hear what I’m playing, it’s so hard to see. Also, the first night at the evening concert, they had a big screen so you could see it. But I wouldn’t try to exaggerate for myself because that’s kind of not natural, so I think everything…the movement I say should come naturally, depends on how you create, how you produce the sound, how you do it (puts arms up high in big stroke gestures). I don’t like doing this. I try not to do it too much.

M: And what about the difference between what we did today with the cameras, between that and the audience?

A: Ah, ok (laughs) When you’re practicing and when you’re rehearsing with somebody, I mean, it depends but, and then when you perform…yeah it’s different and yeah, this setting is a little bit unique because I’ll try not to mess up or something (laughs), so I have a little bit of nerves when I play, and I don’t know if that’s really an effect on my movement. Actually movement, in a way, helps to keep myself concentrated, really how you move one to another and then how you kind of situate like with arms (puts arms up with elbows out). Yeah, I kind of watch visually the bars a lot. We practice that in a way and that helps when we perform. Because when you perform you’re too excited…

10. Can movement be taught?

I would let my students be aware of their movements when they are careless about it and if they cause a distraction from the musical context.

11. Please describe your background in musical activities and in any other activities related to movement (i.e. dance, sports, etc.)

Started to study marimba at age five, and drums at age fifteen.
Activities related to movement: Classical ballet (a couple of years when I was child), Jogging, stretching, Yoga

DOUG’S RESPONSES:

Name: Douglas Perkins
Age: 34
Height/Weight: 6’ 3”
Gender: Male  
Occupation: Percussionist  
Place of Birth: Pittsburgh, PA  
Place of Longest Residence: Pittsburgh, PA  
Place of Current Residence: Concord, NH  
Number of Years Playing Marimba and Your Age When You Began: 20 years of playing. Started at 14.  
Brand of Your Marimba: Adams  
Brand of Your Mallets: Vic Firth  
Grip Type: Stevens  
Describe Any Injuries Related to Performance: no (well… tinnitus but not from marimba)  
Describe The Type of Repertoire You Generally Play: new pieces for chamber percussion groups and occasional solos.  
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11. I was aware of them and heard them many times though never played them. Started preparing in mid-October.  
Repertoire You Have Recorded:  
Some of the rep that I have recorded on marimba is:  
Education Background: BM – University of Cincinnati College- Conservatory of Music (Primary Teacher – Jim Culley) MM/ AD – Yale University (Primary Teacher – Robert Van Sice) DMA – Stony Brook and Eastman School of Music (Primary Teachers – John Beck and Eduardo Leandro) Also studied with Jack DiIanni in Pittsburgh, PA  
University Teaching Background: Lecturer in Music – Dartmouth College and Franklin Pierce University, Artist-in-Residence – University of Chicago  
Hobbies: road biking, mountain biking, golf, hiking, cooking.  

I. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example. 

I think a great deal about movement while I prepare music. As a soloist, I think about how I am stroking the instrument and my body placement with regard to what I am trying to achieve. I tend to check my stroke, then wrist movement, then elbow placement, than hips and feet. In “Velocities”, I base most of my choreography around my hips. In chamber music, I am always finding ways to be concise so that my movements add to a sense of ensemble clarity. Hopefully, I am not consciously thinking about these issues while I am actually performing because it is deep enough in my music making from practice. 

M: In your response, you mentioned in “Velocities” that you base most of your choreography around your hips. I wondered if you could talk about that 

Doug (D): I guess when I think about my hips, I think about…sometimes people talk about the placement of their feet or their hands or stick placement and, often, can I stand up? So, with the idea of a music stand and what have you, you get stuck into this (moves mallets in and out, elbows going out and in), like trying with your feet here (middle of marimba) and your body kind of here (middle of marimba with arms going out as if playing high and low range), people end up making decisions based on that, and I found that a lot of times when I get backed into a corner; if I could remember a single lick of “Velocities” I would tell you, but so I ended things, so if I had to go like this (plays succession of chords right in front of him), I would find the perfect posture and think of actually the fact that my hips would face two o’clock (points) or that I’m here (puts mallets other direction towards low end) and that my body’s facing there (faces
body toward low end), and then this all follows (referring to body and arms), because I think if you don’t…for me that got me out of always thinking of how to make things work from a body-forward position. If I think about how my hips are in relation to the instrument, it loosens me to the possibilities of a swivel (moves body around, one side to the other).

M: Yeah, so you start with thinking of the hips

D: I start with, when I’m backed into a corner of how am I going to execute something, I do that and then sometimes even write, probably not so much anymore but when I was first thinking about this, would write little clock arrows like a circle and a clock that way to remind me like body posture (points to right diagonal), that way, or something like that.

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

As I said above, I have a full body checklist that I employ when body or stroke issues arise.

M: What about your feet? Do you think much about…?

D: I used to think a lot about my feet. I think I started as a drum set player who was firmly on my, fearful of looking away from the music because my feet would be planted so I got conscious of moving, and now if I think about it at all, it’s just that I think, like in the Abe about (moves feet to the side) leading my choreography with my feet when I leap down and things like that. If it’s going well, I’ve thought about my feet and I’m aware if they can help me get to the next place.

M: Yeah, so using that word, “choreography”, would you say that a lot of that is particularly planned or figured out in the practice room ahead of time?

D: God willing, (nods “yes” and laughs)

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

Movement absolutely can and SHOULD be taught. I was trained in movement in three or four ways. One – I did tai chi and eurythmics with Al Otte in Cincinnati to get an awareness of all parts of my body and to see how it can be used. Jim Culley and working with the Percussion Group Cincinnati taught me how to make clear strokes and motions to make chamber music easier. Working in a theatrical percussion trio taught me how to employ my body dramatically and taught me that we listen with our eyes and that our movements are powerful and communicative. Bob Van Sice taught me how to break down my movements and to look at each aspect in a microscope. This taught me that not being able to play a passage has more to do with bad body movement than “just not getting it” and that fixing the body position is often a faster way to get to a positive solution. He also made my motions smaller and more efficient. As a big guy, he helped bring my movements into focus.
M: You said, “Movement absolutely can and should be taught”, and I wondered if you could talk a bit about the how and why.

D: I guess it goes beyond just the marimba, you know we’re talking about the marimba, but for me, percussion being a full body sport, I think coming to have an awareness that my body’s connected to itself and it’s not…you know I think coming out as, or you know like a snare drummer, you get really fixated on, you know maybe even very isolated, cutting your body off. So as you get into more things, full awareness that your foot placement or that you’re connected to your whole body, and an awareness of your whole body can…for me, I think my playing dramatically changed once I was aware that I was connected to my whole body and that I can communicate with, or that my body is partly a tool of communicating, whether it’s removing my body from the situation or it’s including my body, it’s a whole body choice, so I think, through things like “Tai Chi” or, for me it was Tai Chi, Eurhythmics and then theatre percussion music, and doing some fairly active theatre percussion music, you know once you get into the fact that making a musical gesture that might even just be a hand movement. You know, I thought about playing the “Stasack” for this, you know just so you’d have someone on tape playing the “Stasack”…maybe you can make Beverley do that (laughs). I think she plays it. But, so yeah I think when I see some younger players who have problems, it’s because, I think, they’re not aware of this thing they carry around all the time.

M: So, do you discuss it with your students?

D: I do

M: and try to get them to think more…?

D: Yes, and again I think, the long term plan, I do that through, I make people play theatre percussion pieces, mostly just to make them have to do something physical and then through the marimba we talk about, you know probably the first thing we do actually is we do the snare drum thing of removing all of the bad arm technique, fix your fingers, fix your hands, and then you know, by the time we’re playing more complex things, we’re talking about foot placement and hip placement, and we talk about the elbow a lot. Once we get this in place (technique), it’s like, “How’s my elbow affecting my stroke?”

M: In reference to your comment about Bob Van Sice, you mentioned that he has made your motions smaller and more efficient, and then you said, “As the guy who helped bring your movements into focus”, I’m just wondering how?

D: I think the whole idea of removing the extraneous body motions, since, well even somebody like Ayano who needs to get from here to there (high end to low end), she needs to engage a lot more than somebody who’s 6’3 and can just go (plopped hands down as if playing in low range and standing in middle range). I think it used to feel good to use lots of my body to do things and he taught me that if I’ve got all these big things, then maybe efficiency’s good. So I think he is the one that taught me the technique of “let’s remove any extraneous motions and play things and then let’s see, what do we have to build back in to get around?” So we need to move our feet, we need to move our hips, you probably don’t need to kick your leg around and swing it like you’ve been doing, or my sticks don’t need to be up here (way above head) because you get
more notes down here (pretending to play low to the marimba) and so I think he had…we were always playing pieces that would make me smaller.

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

Bob Van Sice and Jim Culley were my primary marimba teachers. Jim tried to bring it up in basic technical ways and Bob was the one who really emphasized the direct connection between the movement of each part of the body as a way to empower of impede a musical gesture.

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

My movements tend to be the same with each performance. Especially on marimba, changes of my movements have a major impact on my ability to execute the music I am playing.

M: You said, “your movements tend to be the same in each performance, especially on marimba, changes of your movements have a major impact on your ability to execute the music you’re playing” and I just wondered why you think that is?

D: I think because, if I have all these moving parts, they’re all executing well, and it’s going to be predictable…what’s going to happen will be predictable. So, changing…because I think also, if it’s a dance, you know, one bad dance move could step on my partner’s foot and then we’re screwed for the next three steps. So I think I’ve tried to build on confidence of knowing what’s going to happen, and then by knowing where my body need to be, then I don’t have to think about it and then it frees me up to think about the music. I think I was aware, based on why we’re talking, I think adjusting to that marimba in this room is causing me to think about my hands or causing me to think about my motions and how can I execute it. That puts a, just another step in between my brain and what the music’s trying to do versus if my body’s really flowing then I’m just in a conversation about the music. So like playing, might not be directly related but, when I play “XY”, for example, my motions are so ingrained that I’m just singing to myself or I’m probably singing two bars ahead of myself the whole time because it’s that ingrained.

M: So, it’s not that extra step of thinking?

D: Right, but it is being comfortable with my motions and my choreography that allows me to go to that type of place.

6. When changing pieces in a performance, do you also change your movements? How so?

I change my movements depending on the needs of each piece on the program.

M: How would the Abe look different from the Stout or the Bach in terms of types of movement?
D: I think the Abe, well it’s two things...I think if it’s going well, hopefully it’s a lot of smaller gestures...I’m trying to get my body out of it, with the exception of that one (referring to the excerpt he played), which you probably put it in there for that reason, because you’re leaping, where it’s like, “and now I have to go there”, so it’s kind of like small motions with big interruptions. The Stout is hopefully relaxed. I have no idea what I did for the Bach. I think if the Bach is going well, I’m actually not thinking about my motions. If the Bach’s going well, I’m just singing, with the exception of the triplet part...

7. In your opinion, can any style of movement be appropriate for any piece? No. How do you decide, or do you consciously make a decision?

If I had a motto for my movements, it would be “don no harm”, meaning that I try not to add any extraneous gestures that would detract from the music that I am performing. If I find that I am gesticulating or fidgeting in ways that detract from the music of putting in gestures that “look cool” but provide no musical benefit, I try to avoid them.

M: How do you know what’s distracting or detracting from the music from your perspective?

D: Well, in a chamber music setting, if I’m playing in rests, you know the idea of making my body small and not making visual noise as I play

M: Yeah, I wanted to ask you about that next. Can you just describe a bit what you mean?

D: Visual noise meaning someone who’s adjusting their mallets and fitting with the music while there might be a quiet gesture or silence going on, on the stage, because I think if we’re watching with our eyes, I think stillness also equates to silence. And so that’s really helpful, like some of the chamber music I’m playing this week, there are these moments where I need to do all of these...I’m aware that I’m going to play a gesture and perhaps stand here (points to right side) for five measures, even though I’m about to have to go there (points to left) because this musical phrase that I’ve played here is still carrying on in the ensemble and then I’ll wait until the change of color to move my body, just to help communicate, like the audience, we can all sit in this moment and then...because I think that’s generally a subconscious level, if I were doing this (acts like going to move from one area to the next) at the end of the phrase, then that guy’s movements are disengaged from the phrase. So we do things like, and who knows what I actually did, but the Harchanko, there are some moments of repose for a little bit, like when I play “Bum Bum” (demonstrates playing two slow determined chords) and I might be aware that I’m focusing in on this note but also maybe to officially, and not moving again until “bum” to prepare the next gesture...as opposed to “bum bum bum” (leans back and puts arms out, wasting time and moving unnecessarily, and then moves body to play next note), so I’m always thinking about those kinds of things to stay. If I’m going to prepare for a concert, I’ll probably videotape myself to watch myself first.

M: So that would kind of answer right here, how you would know what is distracting if you watch yourself, you could have that audience perspective as well.
D: Yes, I think, one I have the audience perspective from a dramatic sense, but also actually there’s another level where I would say, “Why am I making that motion?” or “This section has always been hard to me; it’s not in my hands; why?” And then if I watch myself and say, “Oh, because you’re standing on this foot like this and you’re doing this thing, then of course that’s why it’s this way.

M: So in the moment you might not be able to figure that out because you’re thinking of too many other things.

D: Right, but for me the visual feedback for myself actually often is a great tool for making the music sound better.

8. Are there situations where you find it inappropriate to move while playing? Please explain.

When there is silence or music that is going very slowly, I try to make my body as still as possible so that I am not making visual noise that counteracts the performance experience.

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

I don’t think the audience plays a part in my movements. I don’t change them based on who I am playing for. I might free myself from being as careful in a room that has a loud ambience (like a club or bar) but otherwise my approach remains consistent.

10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

The most profound thing that has affected my awareness of movement is my work with theatrical percussion music. It made me aware of all aspects of my body and how it relates to musical gesture. Before working extensively on this music, I was somewhat aware of my body but was not really aware of how the whole body connects and how one part can affect the rest of it.

M: You mentioned a few things here with some drama and theatrical percussion music. Is there anything else that affected your playing that you experienced…either musically related or unmusically related.

D: I think that’s it. It really was that, aside from normal technical stuff that we all talk about, I mean I work with Alaudi doing movement, like Tai Chi once a week. He used to make us do musical games. He’d make us play pantomime tennis, so that the idea that I would hit the ball like this to you, how would you react to a ball coming at you, like what would your gesture look like to respond to that versus, just the idea of what it communicated if I put my hand like this (preps hand up in air as if about to serve), or if I make this gesture (hand/arm down as if just served the ball). What does that do visually or what does that do to the hands that move my body to the next thing that I have to do? Then, I think with the drama stuff, I did two things that were kind of, three things that were big. One, this percussion trio we had, Koggle, the theatrical
percussion trio that’s like you’re acting and the score’s all about, “pick up chair, walk behind the marimba, and then act like you’re throwing it at the marimbist as the marimbist goes “ba ba ba ba ba ba” (playing line down the marimba), so what does it mean to...how do I carry a four bar phrase and carry a chair? How do I, either how do I throw the chair at the marimbist or how do I react as a marimbist to a chair being thrown at me. Then, asking… What that did for me musically, and I think it gets beyond directly what we’re talking about, is why am I carrying the chair? Why am I throwing it at the marimbist, like even down to, why is my body moving this way? How am I conveying that but then what is the musical gesture, what is the dramatic gesture that is being communicated through this whole thing. To me, that’s even a bigger thing that I’m bringing to music, like what’s the architecture of the piece? Even if it’s, whether it’s a piece like Bach, why is this after this? And why is it communicating to that? I’m asking dramatic questions like an actor would ask. What’s my motivation for this phrase, and connecting with that? Or even something like when I play “XY” which is kind of a process piece but why am I rubbing these two notes next to each other and why is it then causing me to do these two notes? Whether it’s even if the composer is doing a process, I still have to have a motivation for why I’m performing it a certain way, and so the movement study has actually caused me to think about music, it sort of got in my head in a more profound way into asking how the music is moving. Then I did a percussion quartet opera once. It was a vocalist and percussion quartet. The percussion quartet also acted a lot and similarly where you’re playing music or being a character and being engaged in the pursuit of why I’m playing these beats, and why am I writing on the floor with chalk, and why am I reciting these lines. How does it all engage? But all of that then turns into, why am I approaching Bach that way…it’s all the same conversation for me.

NAOKO’S RESPONSES:

Name: Naoko Tsujita
Age: 26
Height/Weight: 157cm/50kg
Gender: F
Occupation: Elementary school teacher, Marimba teacher,
Place of Birth: Japan
Place of Longest Residence: Japan
Place of Current Residence: Canada
Number of Years Playing Marimba and Your Age When You Began: 15 years, started at age 11
Brand of Your Marimba: DeMorrow
Brand of Your Mallets: Mainly, I use Encore Mallet (Nancy Zeltsman model) for solo
Grip Type: Traditional
Describe Any Injuries Related to Performance: peeling off of the skin on my index fingers (But It doesn’t peel from when I changed my Grip)
Describe The Type of Repertoire You Generally Play: Classical, Solo pieces for Marimba
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for Nov. 11.
Repertoire You Have Recorded: none
Education Background: Percussion
University Teaching Background: Percussion
Hobbies: singing, taking pictures, embroidering

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

I try to be more smoothly with economy of motion.
M: Does the “economy of motion” help you play correct notes? So, let’s say you’re playing the “Land” piece, and you’re not moving extra, you’re just doing what you have to do to play…

Naoko (N): I play just feeling

M: Yeah

N: Much music… (used arms in big gesture)

M: So you’re thinking of the bigger shape of the piece…like the arms you were saying? And how the movement would fit with the music? I was also wondering in terms of correct notes, do you play more correctly if you are trying not to move a lot?

N: Mmm Hmm (nods yes)

M: But if you try to move a lot, extra movement, then you might miss notes or it might be the same?

N: not the same…(not sure)

2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

I focus mostly on my shoulders and wrists.

M: “Shoulders and wrists”… I wondered why shoulders and wrists?

N: My teacher said my shoulders were always high and it was not good for me, she said. That’s why I care about shoulders.

M: What about the wrists?

N: To relax or if here (wrist) is tight, it’s not relaxed

M: So it should be more fluid and relaxed?

N: Mmm hmm

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

I was taught to keep my shoulder relaxed and down.

M: Were there any other types or areas of the body that any of your teachers discussed with you besides the shoulders or wrists, like feet, or…?

N: Yes. Feet are grounded (puts hands out as if putting them on ground or surface)
M: They wanted your feet to be grounded?

N: Mmm hmm, it depends on form (shows arms in different positions). It’s not always the same. Like, now I have to go to this form. My body always has to move (shows body shifting for different chords).

M: Mmm hmm, depending on the formation or the chord or the shape of the….

N: Mmm hmm

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

a: Mika Yoshida/ b: Takashi Fukuda (his major is Timpani)/ c: Momoko Kamiya
   a: She taught me to be grounded.
   b: He taught me to more smooth with economy of motion.
   c: She taught me to keep my shoulders relaxed and down.

M: In reference to your teachers…for Myka Yoshida, she taught you to be grounded which is what you were just talking about. So is that keeping your feet stationary, keeping them in one place or is it ok to move the feet?

N: Maybe hips?

M: So Mika Yoshida was talking about trying to keep you grounded and is that mainly trying to stay in one area of the marimba, or what do you mean by grounded?

N: When we play the marimba, we have to move (points back and forth top to bottom range), but not (shuffles feet with lots of small steps)….

M: So, not a lot of small steps, but bigger steps?

N: Hmmm, not light

M: Heavier to the ground?

N: Mm hmm

M: And then is it Takashi?

N: Mm hmm

M: He taught you to be smoother with the economy of motion, and I was wondering, did he say that it was good to eliminate extra movement? That he wanted you to be economical or efficient with your movement?
N: He said that movement should be equal.

M: Economical? Just what you need to do?

N: When I was college student, I had many habits, so that’s why he said, “more simply, you should play more simply”.

M: And then Momoko taught you to keep your shoulders relaxed and down? Did you find that to be helpful, to keep the shoulders down?

N: Mm hmm

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

Similar but looking to be more efficient

M: You said, “similar but looking to be more efficient”, and I was wondering with something like today, with the same excerpt, 1st time and 2nd time, would your movements be the same?

N: I tried.

M: Tried to make them the same?

N: Yes, but kind of different (laughs)

6. When changing pieces in a performance, do you also change your movements? How so?

Related to tempo: mallet height (raise my wrist like drawing semicircle), and the movements are more lateral at faster tempi

M: From one excerpt to the other, like from Bach to Abe, would your movements be pretty different? And you said it’s kind of related to tempo, mallet height, raising your wrists like drawing semi circles. Can you talk a little about that or show us what you mean by raising your wrists like drawing semi circles?

N: My playing in the “Chaconne” is like this (raises arms slowly on the release of stroke, slowly up to use the time or sustain and slightly circular). The movement is like that, but Keiko Abe is kind of fast, it’s not good for (slow circular motions).

M: Right, there’s no time.

N: Mm hmm

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?
Movement changes depend on the person. People have different body types (height, stronger hands, length of arm, and grip type, etc.).

8. Are there situations where you find it inappropriate to move while playing? Please explain.

During difficult passages I try to stay still focus on technique.

M: You said yes, during difficult passages you try to stay still to help focus on technique. Does that help with playing the right notes?

N: During my practice, I care about this

M: In practice but not in performance?

N: Performance, it’s not good to be thinking about technique

M: Ok

N: I think, but I can’t do it yet

M: Ok, so you think in a performance, you would still think about movements?
N: Mm hmm (nods yes)

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

I try to be the same, but nerves make me different

M: Audience. You said you try to be the same, but nerves make you different. I’m wondering if you were nervous, would you move more or less?

N: Less and kind of tight (shows scared look on face and body gestures)

10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

I’ve played the piano from when I was a child, and I played Japanese drums also when I was a child; I played percussion for a wind ensemble and some orchestra work. Sometimes, I play the Cajon and Djembe.

M: You mentioned that you were involved in Japanese drumming; you played piano, and were involved in a wind ensemble and orchestra, as well as play the cajon and djembe. I was wondering if any of that relates to your marimba playing or if it affected how you play the marimba because you did those activities or you had those experiences?

N: On the marimba?
M: Yeah, does any of that relate to your marimba playing?

N: I started marimba when I was 11 years old. I took part in some competition in Japan, and it was from when I was young.

M: Marimba competition?

N: Yeah but so small. I took part in it.

M: Does your experience playing piano and Japanese drums; does that relate to how you play the marimba? Because you played piano, has that helped you or hurt you in any way on the marimba?

N: Actually, I didn’t like piano (laughs) but I like music, so I saw this instrument (points to marimba) and it became my favorite so I started studying. I didn’t like piano.

M: The way you play piano, does that help you on the marimba?

N: Yes, but it was easier to learn the marimba

DAVID’S RESPONSES:

Name: David Schotzko  
Age: 34  
Height/Weight: 5'10"/160  
Gender: M  
Race: White  
Occupation: Musician  
Place of Birth: Aitkin, MN USA  
Place of Longest Residence: New York City  
Place of Current Residence: Toronto  
Number of Years Playing Marimba: 18  
Brand of Your Marimba: Adams  
Brand of Your Mallets: Vic Firth  
Grip Type: Stevens  
Describe Any Injuries Related to Performance: cyst on the underside of left middle finger caused by impact from mallet shaft in 1998. Play with padded band-aids ever since.  
Describe The Type of Repertoire You Generally Play: contemporary chamber music, Japanese/European solo works  
Repertoire You Have Recorded: solo marimba, none. chamber music with marimba, lots.  
Education Background: BM Oberlin Conservatory (Mike Rosen), MM Yale School of Music (Robert Van Sice), DMA Stony Brook University (Eduardo Leandro)  
University Teaching Background: Adjunct Instructor, Manhattanville College (2002-2005)  
Hobbies:

M: How much preparation time did you have on the excerpts?

David (D): I probably ended up playing these for 45 minutes most days for stretches. None of these, with the exception of the Lang piece, were pieces I had played before or had ever performed. If I had learned them or learned bits of them it was probably 15 years ago.
M: Do you have any hobbies?

D: I fish a lot. That’s my biggest hobby.

M: Any other instruments?

D: No, I don’t play any other instruments

1. **Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.**

_I think specifically about movements when I’m practicing, but try to have internalized things by performance time. Lately I have been thinking in detail about efficiency of movement and body position while playing._

M: In reference to, “…you try to have internalized things by performance time…and efficiency of movement and body position while playing,” I wondered if you could talk a bit more about that?

D: It was mostly the Lang piece that I did that for, like I said earlier, I play a lot of marimba in chamber music but I don’t play solo. I stopped doing that a long time ago, it’s just that I happen to be less interested in it, so I hadn’t spent a lot of time, so the Lang was the first marimba solo I learned since my Master’s degree which was quite awhile ago. The whole piece takes place within about 2.5 octaves and it’s all very narrow intervals and very fast things, and there’s just no time to do anything else. I’m often a very sort of loopy player (waves arms above head in flowy motions) but that piece, there’s just no time to do anything round. Everything has to be very low and super efficient. I mean you’re holding thirds and fifths the whole time. You almost never go wider than that, so it made me think a lot about just getting to the notes in tempo. It made me think a lot about exactly where I need to stand and exactly where my arms need to be. It’s the first piece that has made me do that in a long time.

M: Ok, so what about pieces where you have some more time/space to move around, do you still try to be efficient with your movements, or…?

D: Yes, but I typically try to move within the context of the sound world. If I’m playing something that is a sort of slow, mobile structures…there’s a really great piece called, “While I Was Crossing Bridges” which is very slow. So if I’m playing something like that, rather than hit and stand there and wait for the next thing, while I try not to overdo it (moves extremely slowly with arms and body) I would actually be moving through the whole time, staying within the sort of world of sound, making gestures appropriate to the sound I’m trying to produce.

2. **Can movement be taught?**

Yes, to a certain extent. No one can completely reproduce the movements of another, but successful technical instruction always involves a certain amount of instrumental movement instruction.
M: In reference to, “instrumental movement instruction”, does this just apply to technique or to other types of moving as well?

D: I think it can involve or be successful with other types of moving as well. I think there’s a certain amount of your thought process, whenever you’re interpreting a piece, that has to go into how you’re presenting that piece to the audience, and whether we like it or not as musicians, the visual aspect is a part of that, so I think that a teacher can sort of guide you, once it gets past the technical level, a teacher can guide you in your choice of what to do. I think you can mimic another player but you’ll never mimic it perfectly and some pieces lend themselves to certain movements more than others.

M: Do you generally focus your attention on particular areas of the body (hands, arms, feet)?

D: Lately I’ve been thinking more about feet, actually, which is very funny. It’s funny because just now, the shift from my instrument to this instrument, the shift from my private practicing to what I noticed when I was playing (today), where I noticed that I was uncomfortable was actually in my lower body, not in my hands. Interesting. So I was finding just now, I mean I don’t know if I was thinking about it just because we’re talking about moving, but where I was uncomfortable was because I found myself standing in the wrong place or in a slightly wrong place, and I don’t know what would change that, like if I had my marimba, is the visual, you know just the slightly different colored keys, would that change it back? I shouldn’t be thinking this kind of thing when I’m trying to remember the next note, but in this context I was thinking about it. I was like, “Oh that’s interesting because I am, weirdly, being affected by the camera on and the different instrument”; and maybe if I had had an hour on this marimba in here, it may have felt different. But it was interesting because where I was uncomfortable was adapting to my sort of larger scale stances of positioning from the practice room to this room. I think I found that my hands can adapt but the rest of me is what gets messed up, so I’m sort of messed up on the base of it.

M: Is your instrument a five octave?

D: It’s a five octave Adams. I’ve played plenty of Marimba One’s. Marimba One’s, I never feel like I can hit them as hard as I do on my own, but that’s not an excuse. I’ve played Marimba One’s and gotten plenty comfortable on them in the past, but it was interesting to notice that. You know, I don’t get nervous playing percussion, I’ve long since stopped getting nervous playing solo percussion stuff; marimba, I get nervous playing marimba and I notice nerves affecting me playing marimba in a way that they affect me on no other instrument, even on vibraphone strangely enough. So it’s very marimba-specific. I don’t get nervous playing any set-up piece. The minute someone else is on stage with me, playing marimba, I’m fine. Josh Ruben and I played this duo for marimba and bass clarinet and it is as hard as anything that I’ve ever had to do on solo marimba.

M: I wondered if you could talk a bit more about body position.

D: Bob would make you think about everything you do which is great, and I ended up going back to a lot of that when I was doing the Lang piece. The Lang has got harmonic chunks in it.
It’s got the Bb, B natural thing, and then there’s, like the section I just played, there’s this G flat, “A” bit, and next it shifts to basically, this thing is basically entirely G natural and Bb. And the G natural and Bb, if you just step to the side (moves body to side and angles as if about to play chord) and you do the whole thing just by going like this basically (angled body). So the question is when to step aside, how far to step aside and when to step back. I think I do it more or less consistently the same place in the music each time. And that’s the kind of planning ahead that Bob discussed, yeah that was trained to a certain extent where you’d be playing something and Bob would be like, “Why are you standing there?”…The body position…It’s the planning ahead aspect of what you’re doing that he drilled. From the larger body position stuff to the smaller stuff, like if you’re playing a scale and you need to play an octave at the end of it, why are you holding a fifth the whole time? Why don’t you hold the…especially with Steven’s grip; it’s made so you can independently move it around, so why don’t you hold an octave the whole time and then at the end you don’t have to suddenly change…that kind of thing, and that makes a big difference; there’s that section in “Time” (spread out section). Most of the time, you see people play it…when I played it, you hold a fifth or sixth the whole time and swing your arms around a lot and Bob goes, “What are you doing? You just go (drops hands right in front of him as if playing on marimba and not being spread out). That kind of thing, so that was very much trained; it’s very much a planning ahead thing about what you’re doing. There are ways to make this easier.

3. Were you trained to move while playing? If so, what type of training did you receive?

Movement training on marimba was primarily technical – correct grip, body position, etc.

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

Mike Rosen (Oberlin) – approaches everything from a musical/sound perspective. Seldom (if ever) would he make any physical changes to what you were doing. As long as you were getting to what he wanted from a sound standpoint he was happy.
Bob Van Sice (Yale) – Bob was a very specific technical teacher, which was very good for me after Rosen. He was very specific with Stevens grip/Method of Movement ideas, without being pedantic or non-musical.

M: In reference to your statement, “Rosen was more about sound, Van Sice instructed more technically”

D: And part of the reason I think Bob was more technical because Rosen wasn’t, for me at least. I think other people’s experience with Bob might be slightly different. I think a lot of people go to grad school with similar sort of problems or strengths but certainly for me, Bob sort of switched me to full-on Steven’s grip, and I was kind of doing it before but Rosen plays more traditional Musser, basically like a two-mallet grip with the outside mallets flopping around. The way Rosen works is he gets you to hold the mallets and then he doesn’t tell you how to…because he doesn’t need to teach people how to hold the grip. Most people go in there, roughly, knowing how to hold four mallets so he ends up just giving you the music and playing the music and through playing the music you develop kind of your technique, which is not to say your technique is the most effective. He’s happy as long as you get the right notes, which in the end is
fine. Bob was, for me, very helpful in building on that and filling in and sort of making things a lot easier technically.

M: I’m wondering, since you had the two extremes, how you would teach your students.

D: I would definitely teach technique and certainly Bob’s idea of, the general, Bob’s way of thinking about what you’re doing and really having a reason for where you’re standing; have a reason for why you’re holding this interval, have a reason for where you’re standing. You know it’s funny you mentioned my sound. That’s very much a Rosen thing, although I probably sound like a Bob student too, but the first thing Rosen does is sort of permit you to hit the marimba. Most freshman come into school really just sort of tickling keys and not really giving a big resonant sound, like really down in the resonators. And that’s the first thing he does, and just playing two mallets, just going “da da da da da” (acts like playing a scale with two mallets), just doing scales and George Hamilton Green exercises with two mallets, and really getting the marimba to ring. Bob hits much harder and most of his students hit much harder than most other Stevens grip players. We can’t beat the Japanese but most of the people really play…and I know Doug did this, right?

M: He’s a Van Sice student, right?

D: Yeah, Doug and I were at Yale at the same time

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

Probably similar – movement structures my interpretation and the movements are the results of the learning process.

6. When switching pieces in a performance, do you also switch your movements? How so?

Yes, very much. Whether on marimba or percussion, one sounds like one moves. Again, movement decisions are part of the interpretation of the piece and different works call for different interpretations and require different motions.

M: You said, “One sounds like ones moves”. That kind of caught my attention and I wondered if you could discuss that a little bit more

D: Yeah, I think every sound you make is a direct reproduction of how one moved to make the sound. This is funny and something I’ve thought about for a long time because I think it’s very obvious, actually I first noticed it watching jazz drummers when I was playing a lot of jazz, playing a lot of drum set, in that you can have an idea in the difference in the way Elvin Jones sounds versus the way Roy Haynes sounds, versus, you know if you’re watching a video of them and turn the sound off, and you’ll have a pretty good idea, especially as percussionists we automatically know how things work.

M: Right, we can hear…
D: We can hear without even hearing it…you know, Elvin’s all these sort of big gestures (arms flail above head with big gestures) and Roy Haynes is like (arms next to body, very compact and small gestures). That’s really obvious, and it happens on violin and piano too; it’s just that most of the gestures are too small to be seen on stage and I’ve seen many a violin master classes where people say things like, “You have to touch the instrument the way you want it to sound”, which is essentially the same thing, it’s just mostly imperceptible from the stage because we can’t see the tiny gestures. It’s the same sort of idea, and percussion is very obvious because it’s big. And we play with big gestures because we’re far from the audience. Yeah, so I think it’s a major interpretive choice as to how you move for a piece, and I try to move very different, and forgetting the marimba for a minute, I try to move very differently from people, or I probably have similarities of course, but I do move differently from piece to piece. If I’m playing something like Lockeman, which has a little more space and it’s a big set-up and there’s a lot of moving around from thing to thing, well it’s a very sort of sound based pieced and it’s not a rhythm piece, it’s a sound piece. It requires you to move a little differently to get to everything and to not look like you’re tripping over it, because it’s in the middle of this gigantic set up. You’ve got the marimba and all this other stuff, whereas “Rebonds” is really tight and it’s all rhythm and it’s tight and crisp. Steve Schick: it’s very clear watching him (he imitates Steve playing). There’s a video actually, there’s a video of, yeah you sound like you move, yeah Steve is a great example and you can always tell it’s Steve. Steve has a very particular style of movement. There’s a video of him playing “Zyklus” that’s amazing. He does it from memory and he does all this stuff (waves arms up). “Zyklus” can be this very dry piece that makes no sense by it’s Steve’s gestures that make it sound, that give it sense, and give it sound…it makes sense aurally because of the gestures he’s making. There’s a video floating around…it’s really cool and there’s a little fragment of it and it’s really obvious, because that’s a piece that can just be kind of bland and abstract and really just (ding and hit…lots of space), but Steve’s gestures give it aural shape.

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

Perhaps any “style” of movement can be adapted for any piece, but I do not think just any kind of movement is appropriate for every situation. Yes, I do consciously decide.

M: So to go back just a little bit, you know what you were saying about how different pieces will lead to different types of movement. How did you decide, for the four excerpts that you played today, how you would move through those?

D: Oh, that’s interesting. Mostly I’m concerned about mental slips but beyond that, I’m less concerned about interpretation of it and hitting the right notes. So I’m not certain I got to a level where my gestures were so interpretive. And also, none of these excerpts have a lot of room for you to…perhaps if you’re a much more virtuosic marimba player than I, the notes are so easy for them that they (moves arms with big smooth gestures). And for me, all these pieces are pretty notey pieces and I’m only concerned about playing the right notes and for me, on keyboard instruments, I’m less worried about “interpretation” than playing the right notes. My favorite Bob line was (I was trying to, you know I was really smacking something, it was like a triple forte, and I missed it) and Bob goes, “You know there’s nothing louder than the right notes.” (laughs) and he’s absolutely right, so yeah for me, you can take that little snidbit and extrapolate
8. Are there situations where you find it inappropriate to move while playing?

This is a little vague, because all sound making requires movement. My rule of thumb: every gesture I make should be reproduced in sound. I try to weed out all motions that do not produce (or enable) sound or sound making.

M: “every gesture should be reproduced in sound”

D: Yeah, basically, on any instrument in any context, I try not to make a gesture that isn’t reproduced in sound or that doesn’t represent the piece.

9. Please describe your background in musical activities and in any other activities related to movement (i.e. dance, sports, drama, etc.)

I played sports in high school and have generally been the ‘athletic type’ most of my life. Music (percussion, specifically) is the only thing I have ever seriously practiced. My early training/study focused heavily on drumset.

M: In reference to your background, you talked a little bit about some sports and drumset. Is there any correlation in your playing on marimba from those things that you’ve noticed?

D: Yeah, I’m fairly coordinated from sports and drum set, so my technical challenges of the instrument are seldom physical. They’re always about pitch (points to head). Being a drummer growing up and not a pianist. I played piano but I was not very good at it, I had not developed a sort of harmonic keyboard sense. It’s been better lately, it’s gotten a lot better in the last fifteen years, but when I was in school I would have a tendency to play the marimba from muscle memory and as if it were a conveniently arranged collection of woodblocks, rather than a keyboard like a complete instrument. That’s changed now but I think that’s a product of my drum set and general physical coordination. Physical stuff usually comes easy for me, which makes the set up playing and that kind of stuff a little easier for me. That kind of thing can be an advantage in those situations; on the marimba it can be a major handicap.

M: Do you play differently in front of an audience than in the practice room?

D: That’s interesting. Yeah, I think the audience plays a role in my decisions, in exactly that way, I want them to try to think about how things are getting perceived and how my gestures are conveying the work; and the composer plays a role in that at some point. You know, I’m playing the composer’s work and that kind of thing. Do I move differently in front of an audience or not? Yeah, I think I must, I mean I think everyone does.

M: And what about a different sized audience or a different type of audience?

D: It depends drastically on the piece. It’s funny because shifting out of marimba mode for the moment, something like “?Corporel” or “Sound of Hand”, you know… “?Corporel”, the size of
the room and your proximity to the audience vastly impacts what you do. It's funny, there's a medium size which is easy and nice but if it's really big in a big room, you have to push much much harder, but it's also, at the same time, really hard, if we were to do “Corporel?” in a small, like this setting, which I’ve done in small rooms, it’s equally weird. It’s just as hard as a big hall, and my reaction actually is to go just as extreme as I would in a big hall.

M: For anything or just for a “?Corporel”-type piece?

D: Just “?Corporel” in particular. Pieces that I play that are different that really depend on the audience, specifically. Other pieces depend on the hall and other pieces depend on the sound of the room and where you are on the stage and other pieces depend on those kinds of physical sound-based things and sightlines. But again that’s more of the product of the room than an individual sitting in the audience. I’m sure that I do play differently in front of an audience, but that’s the funny thing: everybody’s more comfortable practicing. We all wish we felt like we do in the practice room when we’re on stage in front of people. We’re always kind of trying to get to that step.

10. Do you have any additional thoughts/suggestions/comments regarding movement?

Every musician sounds like they move. On any instrument the character of the movement shapes the character of the sound. So, for me, movement is directly connected to interpretation. However, (again – for me) there is a vast difference from movements required to play and shape sound to extraneous ‘interpretive’ movements and gestures.

M: “shape sound to extraneous interpretive movements and gestures

D: Yes, again, I want every movement I make to be reproduced in sound which means...I think most people I know (and I do too) make extraneous gestures that may be in character with the music but may be a bit over the top...leg kicks, sort of (shows big arm strokes with back arch). Those kinds of things I’ve tried to weed out in general. I try not to do stylized gestures in slow music, for instance (brings arms from one side of his body to the other very slowly like a rainbow).

M: Stylized gestures?

D: You know, if I have one note, I try not to go (brings whole body from one side to the other very dramatically and then releases arm into fake stroke on marimba with huge dramatic release). You know, it’s just a little too much. For me, there’s kind of a line of taste in there. But see, that’s not fair because that’s saying people who do it have bad taste. A lot of times you’re doing it and you’re just not aware you’re doing it. I kind of try to be aware of those things and basically it’s sort of deciding, OK, do I really want to be seen on stage doing that? Essentially, for me, the question to ask is, “At that moment, is the audience listening to me or watching me and does that gesture take them out of the range of focus? Where do I want them to be focusing on? Does that gesture distract them from the piece itself, because seeing the piece is part of it but I also don’t want them to be watching me and not the piece?

JOËL’S RESPONSES:
Name: Joël Cormier  
Age: 29  
Height/Weight: 5’8, 125lbs  
Gender: Male  
Race: Caucasian  
Occupation: Musician  
Place of Birth: Moncton, New Brunswick  
Place of Longest Residence: Barachois, New Brunswick  
Place of Current Residence: Toronto, Ontario  
Number of Years Playing Marimba: 12 years  
Brand of Your Marimba: n/a  
Brand of Your Mallets: n/a  
Grip Type: Usually Stevens grip  
Describe Any Injuries Related to Performance: Finger problems  
Describe The Type of Repertoire You Generally Play: Contemporary ensemble/solo  
Repertoire You Have Recorded: Contemporary ensemble/solo  
Education Background: Doctor in Musical Arts  
University Teaching Background: n/a  
Hobbies: Reading

M: You mentioned that you had a few injuries related to fingers. Could you tell a little about that and how it started?  
Joël (J): Yeah, fingers. It started I guess my last year of my DMA, so last year. It’s been like 4 years. As soon as I practice too much like if my fingers get stuff closed.  
M: Oh, like cramped up?  
J: Yeah, during my last recital it was really really bad, like at the end of one piece, I couldn’t grip my sticks anymore. I was literally pushing down with my sticks. There were just a few bars left so I just kept going but that whole piece was weird. It was “Velocities” so it’s a really hard piece.  
M: So what brings it on, over practicing?  
J: Yeah, just strain. But now, it’s definitely worse if I practice for an hour straight, I’m going to feel it so I just have to watch it. I just have to practice in smaller increments.  
M: And do you know what it is? Arthritis, or anything like that?  
J: I don’t know. I haven’t gone to see anyone about it. As long as I watch how I practice, it’s usually fine.  
M: Where were your degrees from?  
J: University of Moncton (Bachelors) U of T (Masters and DMA)  
M: How familiar were you with the excerpts ahead of time? Had you played them or performed them before?
J: No, just the Bach a little bit, played around with.

M: Preparation time since I asked you to be apart of the study?

J: Yeah. It was on a four octave from “F” to “F”, basically on a vibraphone. That’s what I had. It’s not that great but anyway.

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

I usually think of the beginning of the piece as well as the ending mostly. How I start playing and the final passage are what I think are the most important.

M: You said, “beginning and ending most important”. I wondered why you thought the beginning and end would be the most important to think about.

J: Well, I think it’s the most important for everything, right? Like dynamics…it’s the most important parts for when you want to capture the audience so everything is more important at the two extremities, so movement is just part of that. I think more because, even before they see you play, the movement is the first thing they’ll see. Even if it’s only this (preps arms). That’s like…the piece actually starts there. It starts before the first note so it’s important to really think about it there. And you’re also not playing anything then so you don’t have to think about notes or anything. It’s really a time when you can do a little bit more with your movement…if you need to. The start of the Bach “Chaconne”: it’s a big chord. I think you really want to emphasize that with a strong movement. I’d have to think about it…the ending, the same thing. Once you’re done with your last note, you’re still moving or not moving after that. So the piece is not necessarily done if you’re still moving. Something to think about: if you want to move at all or not move.

2. Can movement be taught?

Yes, but there needs to be flexibility. Each performer has to develop his own ideas of how to move. Guidance is needed more than traditional teaching.

M: I was wondering if you were guided…how you were guided…observation, verbal instruction?

J: I think, not in Moncton a whole lot, I wasn’t really taught about movement. Here, a bit more. Beverley talks about it a bit but I don’t remember it a whole lot…if she showed me, she probably did but I don’t really remember. I think it’s more by watching and intuition or what feels natural.

M: Do you think about particular areas of the body?

J: No, just everything as one. I don’t try to think: “I want my arms to go like this”. I think more generally. It’s all connected. It looks funny if you just do that (moves arms up and down), so you kind of have to do everything (moves body with arms).
3. Were you trained to move while playing? If so, what type of training did you receive?

I was not.

J: I probably was given small pointers but never really taught.

4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

They would be similar. Changing my movement for each performance is a little like changing notes. It would change the way that I would see the piece and it would be more confusing than anything else.

J: Probably not. In every piece, there are usually a few key points. The start, the ending, maybe a few other key spots where I want this movement or this feelings; so for those spots, my movement will usually be around the same, but for everything else, I just do what I feel like. And I go for dynamics and everything else. Like if I change my dynamics somewhere, the movements will change for sure to compensate for that, so I feel like key spots will be the same but generally it will change every time.

M: Has it ever happened in a performance where, let’s say you did something slightly different dynamically or with your body position or something and it messed you up or changed how you played it?

J: Absolutely, but I like that. I don’t like being too choreographed or too planned. I kind of like those surprises because sometimes they’re really good and sometimes they’re really bad and that’s fine. Not really bad, but not as good…like I’ll just think, “That wasn’t that great, the other time was better” I’ll take a mental note of it and I won’t do that next time.

M: Even on stage?

J: Yeah

M: Yeah, wow that’s awesome

J: Well, if I have to say it, it’s long but on stage it’s just a really quick thought. To just say it, it takes 10 seconds, but to realize that and take a mental note, it’s (snap), and you’re already moving on.

M: Not as much time as you think?

J: Yeah, yeah

6. When switching pieces in a performance, do you also switch your movements? How so?
The movements would be different depending on the piece. I would not play Bach the same way as I would something more contemporary. For example, dynamics mean different things depending on the repertoire and depending on the passage. Each would need different movement to convey the information.

M: In reference to your phrase, “to convey different info”…I was going to ask how you know what style to move in for those different pieces.

J: I don’t know

M: It just comes?

J: Yeah, again, it’s what feels natural or what I feel like doing. I don’t think there’s a really set way to move. Well I think if we take these excerpts, like the Abe is really faster and all over the place, so the difference between, I guess, needed movement, movement that you have to do, like I have to get there so I can’t really do too much else, or just movement…put your arms to make it more musical, so each piece is really different.

M: Do you think there are some pieces that lend to more expressive movements?

J: Yeah, probably. Well, definitely

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

There are types of movements that can break the flow of pieces, especially for the audience. Exaggerated movements or movements that are too scripted for the repertoire can hinder performances.

M: In reference to your phrase, “…types that can break the flow”, I wondered if you could give an example of that.

J: I think I’ve seen ensembles play or people play where they exaggerate movement way too much and it’s just really distracting, like if you move too much or you exaggerate it, it just gets, you to concentrate on that and not the music, so I think that’s problematic and you have to watch out for that too. So movement shouldn’t be the main thing. Sometimes not moving is a movement in itself too. Sometimes I feel like moving but I consciously don’t move because I want to say something through not moving. So not moving is actually a movement.

8. Are there situations where you find it inappropriate to move while playing?

Technical parts, or more difficult ones usually require less movement in order to properly execute them.

M: You said, “technical parts…less movement to properly execute”. Can you elaborate?
J: Well sometimes music is just way too hard and you can’t do extra movements because you have to hit right notes. If you have to go there (high) to there (low) in an eighth note, you just have to go straight there; you can’t do anything else. You just have to go straight from this “E” to that “E”; you can’t think about anything else.

M: Yeah, it’s the only way you can possibly get over there…

J: Yeah, unless you change the piece musically, like a ritardando, you could use the movement to stretch out that time so it would give you more time, but if you don’t want to do that then you just have to go straight there and not just look distances, like if it’s really really fast, you can’t do anything extra, really. If you’re with a group and you’re playing (really fast) like this speed and you’re all over the place and can’t do anything else; you just have to go that speed as efficiently as possible and that’s it.

9. Please describe your background in musical activities and in any other activities related to movement (i.e. dance, sports, drama, etc.)

I did some martial arts.

M: You mentioned Martial Arts, and I just wondered if there’s anything else you might have done and if those things have any correlation to your marimba playing.

J: Not really, I don’t think so.

M: Or any other instruments you’ve played?

J: I played a little bit of clarinet in my undergrad, like a secondary instrument but it didn’t really do anything for movement.

M: Any world music?

J: Not a lot. I’ve done Samba actually

10. Do you have any additional thoughts/suggestions/comments regarding movement?

I think it’s possible to overthink movement. It’s definitely important to do what feels natural. While I do put some thought into it, I try not to script or pre-plan anything. I let my body do what it wants to do.

M: You said, “natural, try not to pre-plan….” I’m wondering if there are any pieces where you thought about it more than others.

J: Without knowing for sure, probably not. Well, I’m thinking of one right now, “Three Shells” by Christopher Rouse. It’s a piece; he does delays but they’re all overlapped, so there’s a lot of movement but here the music is a bit more functional. You have to make sure that as you decrescendo one note that your movement is getting lower and lower.
M: So you kind of had to think about mallet height more?

J: Yeah, so that was more like functional movement, but generally though, it’s always for me, like start, end, a few lick spots. Pretty much every piece is like that, I think, without going through every piece that I’ve played.

M: Do you play differently in front of an audience?

J: Probably, if there is an audience, I would move a little bit more than if there’s no audience. Why: Probably a theatrical thing.

M: What about size or type of audience?

J: No, just an audience is enough.

**BEVERLEY’S RESPONSES:**

Name: Beverley Johnston
Age: 54 (b. June 4, 1957)
Height/Weight: 5’7”, 138 lbs
Gender: female
Occupation: percussionist
Place of Birth: Lachine, Quebec, Canada
Place of Longest Residence: Toronto, Ontario
Place of Current Residence: Uxbridge, Ontario
Number of Years Playing Marimba and Your Age When You Began: 37 years playing marimba, began playing marimba at age 17.
Brand of Your Marimba: Marimba One
Brand of Your Mallets: Marimba One (wave wrap, mostly) and LS5’s for softer marimba playing
Grip Type: Burton
Describe Any Injuries Related to Performance: Severe shoulder injury since 2005 which flares up occasionally.
Describe The Type of Repertoire You Generally Play: Contemporary classical but not always “hard core contemporary”. The occasional transcription.
Describe How Familiar Each of the 4 Excerpts (in this study) Were to You/Preparation Time for the Study: Mexican Dance…been playing for many years but had not played it in performance since 2000. Bach excerpt, played in university and occasionally played it for recreation (not performance). Abe excerpt, never played it. Bach Chorale, always play it!
Repertoire You Have Recorded: lots of recordings, mostly contemporary Canadian music which I have commissioned over the years. Please check my repertoire list on my website. Some examples would be... Bach Chorale, Two Mexican Dances, Canadian composers like....Southam, Freedman, Kulesha, Hatzis, Rolfe, Jaeger, Hatch, Ho, Piche, Louie, Arcuri PLUS MORE!
Education Background: Vanier College, Montreal. University of Toronto
University Teaching Background: Been teaching at UofT since 1996
Hobbies: Cooking, Old Movies, exercising (hiking, ping pong, stretching, weight lifting)

M: You described your shoulder injury since 2005, I wondered if you could talk a bit more about that, how’s it’s affected you’re playing, and how it started

Beverley (B): Yeah, well it started actually in the fall of 2004 and according to the doctors, chiropractor, it’s basically repetitive stress from playing a lot and lifting equipment and just the wear and tear one gets as a percussionist, so what happens now is, it can be under control if I’m
very good, working out, lifting weights, and doing all the appropriate things, but if my schedule gets too stressed with pieces that are very physical, I find that it doesn’t matter how good I am with exercising and all that, I just have to really be careful now about repertoire. When I first got the injury, I was ok with playing things like percussion, but for some reason the marimba tended to flare it up a little bit, I think because more intricate tendons are used to play the marimba, opposed to the drums which are bigger muscle groups, I think.

M: And then you had the thumb injury too?

B: (laughs), Yes, well yeah, basically, what the chiropractor thought was that it was blackberry thumb. I was using my blackberry a lot; I was back and forth between Montreal and Toronto and didn’t have my computer, sending long text messages. Plus I was doing the marimba book in “Alice and Wonderland” which was pretty heavy duty; so the combination of those two things and just a hectic career, I think kind of…. Now I got a cortisone shot and it’s fine. Who knows how long it’s going to last though. (laughs)

1. Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

Yes I do think of my movements but not always. I think mostly about economy of motion so that I can play the correct notes BUT I also think that the gestures that I make help with interpretation of the music especially in your Bach excerpt…because the music in some sections is relatively slow, it is important to keep the energy going thought the gesture that is evoked. In the Abe excerpt, since it is new to me, my main concern is playing the correct notes and economy of motion helps with that especially when I’m dealing with the large leaps from one end of the instrument to the other end of the instrument. In those sections I’m thinking about what my feet are doing and that my legs are spread apart and my knees are a bit bent.

M: In reference to your statement, “I think about economy of motion”, what about Stout or other ones with that?

B: I just find that if the piece is, just to be simple about it, if the piece is faster, there’s really no time to be thinking (arms out and dramatic) “La!” “Ah!” to get into that kind of thing. But in the Bach, there is time because it’s a Chaconne, and there is time to do the gesture, which can actually help to maintain that dirge-like rhythm, yeah if there’s time. The Stout, ends of phrases, that kind of thing, if there’s time to do a little gesture, but I try not to dwell on it. I think I mentioned also in the survey, later on, sometimes it can be dangerous to do the same gesture all the time because then all you’re doing is thinking about the gesture as opposed to using your ears which is basically number one, and I find sometimes with performers that they can get carried away with the gestures too much, I mean I’m guilty of that too, and then I find myself going, “Well, you know, it’s not the way I feel in the moment” but it’s that muscle memory of what you do.

M: That’s a really good point. I’ve had that experience too.
2. When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

I think I answered that question above. But I will add that lately I have been dealing with a thumb injury so I have been thinking about the use of my thumb with the Burton grip and have modified how I use my thumb since at one point I could not bend it properly!

M: You said, “Lately the thumb injury”, so generally you might think of particular areas, is it due to injury that it might cause you to think about something?

B: Yeah, well I’ve always dealt with, as a performer, the fact that I can tense up. I’ve worked on, especially as I get older, because of the injury, but also because just generally I can get that way, so I’ve been very careful about posture, things like that while I’m performing. Sometimes I let go of that and I find myself hunching over the instrument and I find my shoulder gets like this (leans forward with shoulders), which causes the tension. So, probably even more than when I was your age, I’m thinking about posture, just so that I can maintain a career of playing. I know it’s not the same kind of virtuosic career I had when I was younger, but nonetheless, I still want to make music in the best possible way so posture is definitely an issue.

M: Do you ever tend to think about fingers or feet or stance, hips, or any certain areas?

B: Yeah, mostly things like separating the legs to get more balance and trying not to (leans forward) hover over the instrument like this (shows good posture). Like in Michael Burritt’s master class, he talked about some of the students hunching over the instrument, whereas if you’re thinking about your posture and strengthening your back, that helps to support you. It’s kind of like a Pilates thing too where your abdomen and your back are maintaining the direction of your spine so you can get the best energy and most economy of energy while you’re playing.

3. Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

I was never “trained” about movement BUT lately (within the past 10 years or so) I have been watching many videos of excellent marimba players so it has given me more freedom to move the way I want to and to know that extraneous movements and gestures can enhance the music as long as they evoke the sound being portrayed.

M: I wondered if you could talk a little more about movement training

B: It just makes me realize, yes, you can move a little extra. It’s ok, it evokes the music, so don’t be timid on just lifting the mallets up a little bit. No, I was never trained to move while playing. My first real percussion teacher was Russ Hartenberger so it was kind of that NEXUS school where you know this resistance stroke and all that, and economy of motion. I mean you could see it while he was playing the Phillip Glass Timpani Concerto. You know, sticks aren’t flying all over the place, it’s all, everything’s like contained and yet he’s getting that kind of…so that movement is kind of the opposite of some of the other gestures (waves arms up), but I like to think I’ve combined a bit of that, Russ Hartenberger’s schooling along with my experience having seen videos or been to live performances of other marimba players.
4. Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing.

I only had Russell Hartenberger as my main teacher and his approach to the marimba is actually quite different to mine BUT he gave me the freedom to express myself the way I wanted to. Since Russell, I had a coach named Lesley Huggett who only focused on interpretation of the music. He was actually a French horn player! Of course I have been to several marimba presentations and have been a featured artist at numerous percussion festivals so I’ve had the opportunity to see and hear many great artists on the instrument and have learned through “osmosis”. I also feel I learn a lot from my students since I believe that I don’t want to teach them that the way they play an instrument has to be my way because I am basically a MUTT….I’ve learned a little bit here and a little bit there!!!!Therefore the students have come up with some pretty individual approaches themselves. That’s the way I like it!

M: With Russell as your main teacher and his approach being different...when you said, “freedom to express”. I’m wondering if that’s through sound or through movement or both.

B: Sound, I would say, sound. Yeah, because I come from a piano tradition so the first thing that was plopped on my music stand was the Bach. You know Bach was kind of my initiation into the marimba world, Sonatas and Partitas, so it had nothing really to do with technique and how you move the mallets or that, it was just about listening and knowing that kind of piano sound, like from the Bach I had played on piano and the understanding of harmonic rhythm, as opposed to how to play Bach on the marimba.

5. If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?

Yes, my movements would be the same although this can be dangerous. I would like to think that over the years a piece changes and develops so I don’t want to be caught in my “old” habits of movement.

M: For the same piece, would you have the same or similar movements? Or you could relate it to this (research study) also, the same excerpt being played twice.

B: Yeah, I probably did move the same except when I made a mistake (laughs)

M: For “In the Fire of Conflict”, with all those performances, would your movements be the same or similar?

B: Yeah, probably the same, which I do recall saying it’s dangerous to do. (laughs) Yeah, here’s an example, I’ll never forget this: I had the opportunity to play with Pinchas Zukerman; it was a chamber music piece, but we did it for two nights and we had various rehearsals, and there was a little violin cadenza and every time he played it, he played it differently, you know and I thought “That is so cool! And every time it was really musical but it was that kind of vitality and spark in his playing that kept him alive and in a way, I don’t know if
it’s associated with movement, but number one is the ears, and then this and the hoo and the ha (raises arms with big gestures). That can happen but not to take over what’s in the music.

M: Do you think something can sound different but look the same?

B: Yeah, I think so, unless you have something like what they did with Glenn Gould…like analyze the sound waves, you know his phrasing and all that, which was actually perfect. He was one of the rare performers who had that sense of perfection but if you took the camera and slowed down everything, like what was the thing?

M: Could it sound different but look the same or do those go together.

B: Yeah, if you hyper analyzed the video, it wouldn’t look the same but it could. Yeah.

M: Yeah, I guess that could go the other way around too, could it look different but sound the same?

B: Yes, I think so

6. When changing pieces in a performance, do you also change your movements? How so?

I do change my movements (I think!!!) for different pieces. A jazzy style piece will certainly evoke movements that are way different than a classical contemporary music piece (eg…Time for Marimba by Miki)

M: You said that you do change your movements. Could you give any demonstrations or descriptions of how these styles differ…just talk a bit about how you might play those pieces different, movement-wise, or even the excerpts today or different pieces.

B: I think it is all about, understanding the style. You have to know who Keiko Abe is and what she plays like and the style of her music versus the Bach or versus the Gordon Stout, how he plays and what his style is like. Another example for me is, like for instance, this isn’t marimba playing but it’s like the “Tongues of Fire”, the percussion concerto that Christos Hatzis wrote, where there’s that third movement which is jazzy and everything, and my hips are moving you know, and it’s like this (smiley, light, fun, jazzy feel), as opposed to the marimba part which is much more classical almost, cadenza like, and lyrical. So, it has to do with style I guess; it evokes whatever movement. I can’t move as much when I’m playing that marimba part as when I’m digging into a drumset thing.

7. In your opinion, can any style of movement be appropriate for any piece? How do you decide, or do you consciously make a decision?

I really try not to consciously decide how I’m going to move. It just happens and it is in combination with the complexity of playing the marimba to be accurate (economy of motion in this case) and also the style…like I mentioned before, for example, classical versus jazzy
8. Are there situations where you find it inappropriate to move while playing? Please explain.

YES. Certainly. If the piece is very note-y and complicated, I tend not to focus on the movement UNLESS the movement helps with my accuracy.

9. How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?

I find bigger gestures may work for a larger hall but not for a “soiree” setting where the audience is right in your face! I sometimes realize that my whole approach to playing is so “out there” that I can be somewhat intimidated by a more “academic” audience. Over the years though I have learned not to care as much about this and go for the “big one”! What I mean is, I will go out on a limb with movement (even incorporating dance into the piece, if it is contemporary) if I have an urge, in the moment, to do that. I am sometimes ridiculed for this but on the other hand…and from concerts I’ve done abroad, I realize that this is what separates the average performance from the memorable performance. For me, the sense of drama in the music is very important. I have worked with people like the late George Bloomfield (film and television director) and he has told me that being a good actor can do nothing but help my performance as a musician. This has freed me somewhat to take those chances, which has included being a little more brazen with movement and playing. I find most audiences can relate to that more on a subconscious level whether they are academically astute or not!

M: You said, “I learned not to care and go for the big one.”

B: Yeah, as you get older you realize, well how many more performances am I going to have, so it’s like “Wah!” (throws arms up), just go out there and do it kind of thing.

M: You said “if you have the urge…” What might give you that urge to go out on a limb?

B: Sometimes the feel of it, just the feel of the audience, the aura, or whatever. Like when I did the recital the other day…”All too Consuming”… where you know, it’s silly. And the audience: there were a couple older people in the audience…AND there were no program notes! (laughs) for the recital. So it’s like, I have to just do this and make it totally ridiculous. And then somebody at the end said, “Were you playing the part of a psycho woman?” “Yeah”

M: (laughs) Didn’t you see the wine?

B: (laughs) Cranberry juice…

10. Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)

I think I answered part of that in question 9. Some of the most exhilarating experiences I’ve had lately have been getting involved in performance art projects, which have combined playing percussion, singing, dancing and acting. I feel this has freed me
somewhat to be less self-conscious when I perform. I have done some world music but it has never been something I have been interested in pursuing.

M: You mentioned art projects.

B: Oh yeah, combining the arts, like dance and multi-media and all that kind of thing which I find really interesting.

M: And how has that changed or affected your marimba playing?

B: I think one can get too serious about things, so it’s good to open up to different disciplines, just to realize, it makes you a little less self-centered in what you’re doing and always searching and it keeps you alive basically…I always go back to the marimba but I always go away from it because I feel other arts, even going to an art gallery can feed into my marimba playing. It all has to do with structure and it has to do with energies you feel from different arts and it all plays into how you’re going to approach the instrument.

11. Do you have any additional thoughts/suggestions/comments regarding movement?

I have noticed from watching some of my videos in performance that I need to relax a bit more. So at my ripe old age, I’m still working on that. Because of this, I am also observing my students in this respect and have tried to help them relax more when they are playing. I find that my shoulders tighten up and have been working on relaxing my shoulders and ALSO my mouth because I have a tendency to purse my lips when some difficult passage approaches. Because of my shoulder injury, I have changed my playing style somewhat. When I practice now, everything is VERY SLOW and the minute I observe any tension, I stop. This is a long, slow process but I have found that it has helped me over the years. Because of my changes in practicing, I have found that my gestures are a bit more fluid. You will probably find that in my video I’m doing for you, I will know some of the excerpts more than the others and therefore this will affect my movement. Perhaps the less well known excerpts will be more jerky? Not sure. There is always an issue of balancing spontaneity and methodical playing in the heat of the moment!

M: You mentioned something about confidence that I wanted to ask you about. “Confidence leads to more fluid movement”

B: Perhaps the less well-known excerpts will be more jerky, you know it’s true because I don’t know the music, like the Keiko Abe, I’m not sure…actually the one I was most concerned about was the Stout, which I’ve played so many times.

M: You recorded that

B: Yeah, I let it go, and also I’m not a great memorizer of music so not having the music there, it’s always in mind…am I going to forget, so that can cause a little bit of jerkiness, and that all has to do with confidence.

M: So the more confident you are in the piece, the more fluid?
B: I think so, but not confident like, “Am I not good?!?” You know that kind of confident

M: But just knowing it?

B: Just feeling comfortable with myself, you know and I find that I’ve had to spend a lot of my career dealing with the psychological part of playing; not just being in the practice room and learning gestures and the music and all that kind of stuff, but just having a good sense of myself, not in a selfish way, but just being comfortable with myself. Some people find religion; some people are into the new age thing; some people exercise, you know so it’s just different ways of discovering yourself. And also not to be trapped into that one way of developing that confidence because I think human beings, our cells change every seven years, you know, it’s the way they say in science that your cells just kind of replenish themselves every seven years. We have to do that psychologically too. We have to move on, and sometimes you get in a rut and it causes lack of confidence issues, so you have to constantly keep on moving and changing, it’s a challenge.
## Appendix 16: Interview Summary Chart (Part 1 of 3)

<table>
<thead>
<tr>
<th>Name</th>
<th>Aiyun Huang</th>
<th>Ginny Armstrong</th>
<th>Beverley Johnston</th>
<th>Naoko Tsujita</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age:</strong></td>
<td>38</td>
<td>44</td>
<td>54</td>
<td>26</td>
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<tr>
<td><strong>Height/Weight:</strong></td>
<td>5'3/123 Lbs.</td>
<td>5'6/140 Lbs.</td>
<td>5'7/138 Lbs.</td>
<td>5'2/110 Lbs.</td>
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<td><strong>Gender:</strong></td>
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<td>Female</td>
<td>Female</td>
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<tr>
<td><strong>Occupation:</strong></td>
<td>Professor; McGill</td>
<td>Assist. Prof; U of Iowa</td>
<td>Assist. Prof; U of T</td>
<td>Teacher: Elem, Music</td>
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<tr>
<td><strong>Place of Birth:</strong></td>
<td>Taiwan</td>
<td>Fairmont, WV, USA</td>
<td>Quebec, CND</td>
<td>Japan</td>
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<tr>
<td><strong>Place of Longest Residence:</strong></td>
<td>Taiwan</td>
<td>Elkins, WV, USA</td>
<td>Toronto, Ontario, CND</td>
<td>Japan</td>
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<td><strong>Place of Current Residence:</strong></td>
<td>Montreal, Quebec, CND</td>
<td>Iowa City, IA, USA</td>
<td>Uxbridge, Ontario, CND</td>
<td>Toronto, CND</td>
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<tr>
<td><strong>Number of Years Playing Marimba:</strong></td>
<td>Began 12, 26 years</td>
<td>Began 15, 29 years</td>
<td>Began 17, 37 years</td>
<td>Began 11, 15 years</td>
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<tr>
<td><strong>Brand of Your Marimba:</strong></td>
<td>Adams/Yamaha</td>
<td>Yamaha</td>
<td>Marimba One</td>
<td>DeMorrow</td>
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<tr>
<td><strong>Brand of Your Mallets:</strong></td>
<td>Adams or others</td>
<td>Innovative Perc./Encore</td>
<td>Marimba One, LS5's</td>
<td>Encore (Zeltsman model)</td>
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<td><strong>Grip Type:</strong></td>
<td>Traditional</td>
<td>Independent</td>
<td>Burton</td>
<td>Traditional</td>
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<tr>
<td><strong>Describe Any Performance-Related Injuries:</strong></td>
<td>None</td>
<td>Occasional sore fingers</td>
<td>Severe shoulder injury</td>
<td>Index fingers skin peeling</td>
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<tr>
<td><strong>Describe Your General Repertoire Type:</strong></td>
<td>Contemp. Percussion</td>
<td>Transcriptions/chamber</td>
<td>Contemp. classical, transcriptions</td>
<td>Classical, solo marimba</td>
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<tr>
<td><strong>Preparation Time for Study:</strong></td>
<td>Never played but taught</td>
<td>Performed Abe &amp; Bach, taught Stout</td>
<td>Performed Stout; Played Bach; Abe never</td>
<td>Played Stout, Played Bach; Abe never</td>
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<tr>
<td><strong>Repertoire You Have Recorded:</strong></td>
<td>Chamber/solo</td>
<td>Perc. Ensemble, contemp., chamber, duets</td>
<td>Mostly contemp., Canadian</td>
<td>No recordings</td>
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<td><strong>Education Background:</strong></td>
<td>DMA</td>
<td>BM (WVU), DMA (U of Iowa)</td>
<td>Vanier College, U of T (BM)</td>
<td>College in Japan</td>
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<td><strong>University Teaching Background:</strong></td>
<td>Professor of percussion</td>
<td>Assist and Head Perc. Prof</td>
<td>U of T Assist Prof.</td>
<td>Percussionist</td>
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<tr>
<td><strong>Hobbies:</strong></td>
<td>Cooking</td>
<td>Read, Run, Garden</td>
<td>Cook, Movies, Exercise</td>
<td>Sing, Embroider, Photograph</td>
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<tr>
<td>Interview Questions</td>
<td>Aiyun Huang</td>
<td>Ginny Armstrong</td>
<td>Beverley Johnston</td>
<td>Naoko Tsujita</td>
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<td>---------------------------------------------</td>
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<td>----------------------------------------</td>
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<tr>
<td>1) Do you think about movement (mvt.) while playing? E.g.?</td>
<td>Not in performance (perf) but in practice to avoid perf surprises</td>
<td>Not continuously, but when relates to accuracy (acc.) &amp; communication (comm.)</td>
<td>Yes not always: Effic. of Mvt (E of M) helps interpretation (interp)</td>
<td>Tries to move smoothly with E of M</td>
</tr>
<tr>
<td>2) Do you focus on certain areas of body?</td>
<td>Stance in relation to marimba (mar.); upper body follows naturally</td>
<td>For acc; feet &amp; upper body. Also arms &amp; wrists</td>
<td>Feet (i.e. Abe), legs apart, knees bent, injured thumb</td>
<td>Mostly on shoulders and wrist.</td>
</tr>
<tr>
<td>3) Can mvts be taught? Trained to move?</td>
<td>Awareness; knees/hips active role, size affects</td>
<td>Some can be; some natural. Taught for E of M, acc</td>
<td>Not trained, observed, extraneous could enhance</td>
<td>Taught to keep shoulder relaxed and down</td>
</tr>
<tr>
<td>4) Your teachers? Their approaches?</td>
<td>Ju, Hsu (defined), Hartenberger, Engleman, Epstein, Schick, etc</td>
<td>Faini-sound, comm; Satterfield- E of M, Moore-show, comm</td>
<td>Hartenberger-diff approach, freedom; Huggett-interp</td>
<td>Yoshida-grounded; Fukuda-smooth, E of M; Kamiya-relax</td>
</tr>
<tr>
<td>5) If same piece multiple times, same mvts?</td>
<td>Mvts need to be consistent &amp; practiced (pract); acc</td>
<td>Some, depends on environment, energy, mood, instrument</td>
<td>Probably same, except on mistakes</td>
<td>Similar, but looking to be more efficient.</td>
</tr>
<tr>
<td>6) Changing pieces, also change mvts, how?</td>
<td>Necessary (Nec) gestures to execute info, integral part of interp</td>
<td>Yes, depends on style. Abe, Bach, Stout very different</td>
<td>Yes, different, depends on style; jazzy evokes diff mvts than classical</td>
<td>Related to tempo: mallet height, fast-mvt more lateral</td>
</tr>
<tr>
<td>7) Any mvts type appropriate for any piece?</td>
<td>Probably not; Uses ears</td>
<td>General mvts/style can be same; Comm/Sound leads to differences</td>
<td>Tries not to decide; E of M &amp; style decide</td>
<td>Mvts changes depending on person. Each has different body type</td>
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<tr>
<td>8) Situations where inappropriate to move?</td>
<td>Fast notes in small area-does not work to move a lot</td>
<td>Depends on motion; solo requires motion; ensemble could distract (distr).</td>
<td>Yes, if notey/different; tries not to focus on mvts unless helps</td>
<td>Diff passages-tries to stay still to focus on technique</td>
</tr>
<tr>
<td>9) Different (diff) mvts. for diff audience size and type?</td>
<td>Might move diff because self conscious with audience, but pract</td>
<td>Pract as if audience; large audience: large exaggerate (exagg) motions</td>
<td>Bigger gesture for bigger hall, not &quot;soiree&quot;</td>
<td>Tries to be the same but nerves make her move diff.</td>
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<td>10) Background in musical &amp; mvts. activities</td>
<td>Piano, timpani, flute, tabla, yoga, salsa dance,</td>
<td>Perc. Ensemble, Orchestra, Contemporary, Choir, Marching, World Music</td>
<td>Performance art, singing, dance, acting, world music</td>
<td>Piano, Japanese drums, Cajon, Djembe, Wind Ensemble, Orchestra</td>
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<td>11) Additional thoughts/comments</td>
<td>None</td>
<td>Perf needs to find mvts natural to their style/personality</td>
<td>Wants/needs to relax more (shoulders, mouth)</td>
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<tr>
<td>Name</td>
<td>Ayano Kataoka</td>
<td>Doug Perkins</td>
<td>Tom Burritt</td>
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<td>Height/Weight</td>
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<td>Occupation</td>
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<td>Professor</td>
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<td>Place of Birth</td>
<td>Chiba, Japan</td>
<td>Pittsburgh, PA, USA</td>
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<td>Place of Longest Residence</td>
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<td>Pittsburgh, PA, USA</td>
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<td>Place of Current Residence</td>
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<td>Concord, NH, USA</td>
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<td>Number of Years Playing Marimba</td>
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<td>Began 14, 20 years</td>
<td>Began 30, 10 years</td>
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<td>Brand of Your Marimba:</td>
<td>Adams</td>
<td>Adams</td>
<td>Malletech</td>
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<tr>
<td>Brand of Your Mallets:</td>
<td>Adams and others</td>
<td>Vic Firth</td>
<td>Malletech</td>
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<tr>
<td>Grip Type</td>
<td>Cross grip</td>
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<td>Stevens</td>
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<td>Describe Any Performance-Related Injuries:</td>
<td>None</td>
<td>Tinnitus but not from marimba</td>
<td>None</td>
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<tr>
<td>Describe Your General Repertoire Type:</td>
<td>Contemporary</td>
<td>New chamber, some solo</td>
<td>Contemporary</td>
<td></td>
</tr>
<tr>
<td>Preparation Time for Study:</td>
<td>Performed Stout, not</td>
<td>Never played any of 3 excerpts; started mid Oct.</td>
<td>Played Bach &amp; Stout, not Abe</td>
<td></td>
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<tr>
<td>Repertoire You Have Recorded:</td>
<td>Chamber, flute/percussion</td>
<td>Velocities, Nagoya Marimbas, etc; chamber</td>
<td>Contemporary solo works</td>
<td></td>
</tr>
<tr>
<td>Education Background:</td>
<td>Yale, Peabody, Tokyo National University</td>
<td>BM-U Cinn; MM-Yale; DMA-Stony Brook, Eastman</td>
<td>BM/BS-Ithaca; MM-Kent; DMA-North Western</td>
<td></td>
</tr>
<tr>
<td>University Teaching Background:</td>
<td>U Mass Amherst</td>
<td>Dartmouth, Franklin Pierce, U of Chic</td>
<td>U of Central AK, U of TX</td>
<td></td>
</tr>
<tr>
<td>Hobbies</td>
<td>Jogging, yoga, cooking, reading</td>
<td>Biking, golfing, hiking, cooking</td>
<td>Technology, blogging, wine</td>
<td></td>
</tr>
<tr>
<td>Interview Questions</td>
<td>Ayano Kataoka</td>
<td>Doug Perkins</td>
<td>Tom Burritt</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>1) Think about mvt. while playing? Ex?</td>
<td>Some; connects to sound; nothing to distract</td>
<td>Yes in pract., stroke, body position (body pos) wrist, elbow, hips/feet</td>
<td>Used to think, now automatic; 6 M's-upper</td>
<td></td>
</tr>
<tr>
<td>2) Do you focus on certain areas of body?</td>
<td>Try not to move big; <em>natural</em></td>
<td>Same as above; has checklist for body/stroke issues</td>
<td>Yes, avoids torso mvt, small steps, elbows out</td>
<td></td>
</tr>
<tr>
<td>3) Can mvt be taught? Trained to move?</td>
<td>Not really</td>
<td>Yes, can and should! Trained in 3-4 ways</td>
<td>Yes, can and needs to. Trained on lower body</td>
<td></td>
</tr>
<tr>
<td>4) Your teachers? Their approaches?</td>
<td>Van Sice, Takahashi, Aruga, Kubo</td>
<td>Van Sice-connection between mvt &amp; musical gestures; Culley-technique</td>
<td>Stout-bar placement; efficiency (<em>eflic</em>); Michael Burritt-lower body</td>
<td></td>
</tr>
<tr>
<td>5) If same piece multiple times, same mvt?</td>
<td>Somewhat similar, score can dictate interp/mov</td>
<td>Same, changes in mvt will change execution of music</td>
<td>Similar, variation in upper body, especially hands. Mood factor</td>
<td></td>
</tr>
<tr>
<td>6) Changing pieces, also change mvts, how?</td>
<td>Unconsciously yes; each piece has diff character</td>
<td>Change mvts depending on needs of each piece.</td>
<td>Hopefully mvt matches mood of each piece</td>
<td></td>
</tr>
<tr>
<td>7) Any mvt type appropriate for any piece?</td>
<td>Some appropriate, some inappropriate; <em>Sound &amp; natural mvt</em></td>
<td>No, &quot;Don no harm&quot; motto; no <em>extraneous</em> to detract</td>
<td>Mvt matches overall mood of piece; <em>connection</em>!</td>
<td></td>
</tr>
<tr>
<td>8) Situations where inappropriate to move?</td>
<td>If mvt is <em>exagg</em> or not related to <em>sound</em></td>
<td>Silence, music going very slowly. No visual noise</td>
<td>Before begin; any mvt <em>extraneous</em> with no purpose</td>
<td></td>
</tr>
<tr>
<td>9) Diff mvt. for diff. audience size and type?</td>
<td>No, no <em>exagg</em> mvt since not <em>natural</em></td>
<td>No, no change for diff audience; if loud audience-free from careful</td>
<td>Generally No, similar to <em>practice</em>; more for non-percussion audience</td>
<td></td>
</tr>
<tr>
<td>10) Background in musical &amp; mvt. activities</td>
<td>Drums, ballet, jogging, stretch, yoga</td>
<td>Theatrical percussion, music, Eurythmics, Tai Chi,</td>
<td>Athlete-Tae Kwon Do</td>
<td></td>
</tr>
<tr>
<td>11) Additional thoughts/comments</td>
<td>None</td>
<td>None</td>
<td>No injury, <em>relax</em>, express, articulation, <em>comm</em>, etc</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>David Schotzko</td>
<td>Joël Cormier</td>
<td>Pius Cheung</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>---------------------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Age:</td>
<td>34</td>
<td>29</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Height/Weight:</td>
<td>5’10/160 Lbs.</td>
<td>5’8/125 Lbs.</td>
<td>5’10/150 Lbs.</td>
<td></td>
</tr>
<tr>
<td>Gender:</td>
<td>Male</td>
<td>Male</td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>Occupation:</td>
<td>Musician</td>
<td>Musician</td>
<td>Performer/teacher</td>
<td></td>
</tr>
<tr>
<td>Place of Birth:</td>
<td>Aitkin, MN, USA</td>
<td>Moncton, New Brunswick, CND</td>
<td>Hong Kong</td>
<td></td>
</tr>
<tr>
<td>Place of Longest Residence</td>
<td>New York City, USA</td>
<td>Barachois, New Brunswick, CND</td>
<td>Hong Kong</td>
<td></td>
</tr>
<tr>
<td>Place of Current Residence</td>
<td>Toronto, Ontario, CND</td>
<td>Toronto, Ontario, CND</td>
<td>Eugene, Oregon, USA</td>
<td></td>
</tr>
<tr>
<td>Number of Years Playing Marimba</td>
<td>Began 16, 18 years</td>
<td>Began 17, 12 years</td>
<td>Began 19, 9 years</td>
<td></td>
</tr>
<tr>
<td>Brand of Your Marimba:</td>
<td>Adams</td>
<td>N/A</td>
<td>Yamaha</td>
<td></td>
</tr>
<tr>
<td>Brand of Your Mallets:</td>
<td>Vic Firth</td>
<td>N/A</td>
<td>Vic Firth</td>
<td></td>
</tr>
<tr>
<td>Grip Type:</td>
<td>Stevens</td>
<td>Usually Stevens</td>
<td>Burton</td>
<td></td>
</tr>
<tr>
<td>Describe Any Performance-Related Injuries:</td>
<td>Cyst-left middle finger</td>
<td>Finger cramps</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Describe Your General Repertoire Type:</td>
<td>Contemporary, chamber; Japanese/European</td>
<td>Contemporary, ensemble/solo</td>
<td>Bach, his compositions, standard rep</td>
<td></td>
</tr>
<tr>
<td>Preparation Time for Study:</td>
<td>A few weeks</td>
<td>Played Bach (not performed) Not Stout &amp; Abe</td>
<td>Stout 15 min; Abe 15 years; Bach 10 years</td>
<td></td>
</tr>
<tr>
<td>Repertoire You Have Recorded:</td>
<td>Chamber, including repertoire with marimba</td>
<td>N/A</td>
<td>Bach/Goldberg Variations, Cheung</td>
<td></td>
</tr>
<tr>
<td>Education Background:</td>
<td>BM-Oberlin; MM-Yale: DMA-Stony Brook</td>
<td>BM-Moncton; MM, DMA-U of T</td>
<td>BM-Curtis; Diploma-Boston, DMA-U of Mich</td>
<td></td>
</tr>
<tr>
<td>University Teaching Background:</td>
<td>Adjunct Instructor, Manhattanville College</td>
<td>N/A</td>
<td>U of Oregon, Percussion Professor</td>
<td></td>
</tr>
<tr>
<td>Hobbies:</td>
<td>Fishing</td>
<td>Reading</td>
<td>Skydiving</td>
<td></td>
</tr>
<tr>
<td>Interview Questions</td>
<td>David Schotzko</td>
<td>Joël Cormier</td>
<td>Pius Cheung</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
<td>--------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1) Think about mvt. while playing? Ex?</td>
<td>Yes- in practice. Try not to in performance; E of M &amp; body pos.</td>
<td>Some, Thinks about beginning and end of piece</td>
<td>Generally No, thinks relax neck/shoulders if sounds tight</td>
<td></td>
</tr>
<tr>
<td>2) Do you focus on certain areas of body?</td>
<td>Yes, feet/stance, especially in research study with diff. marimba</td>
<td>No, just generally, everything as one, connected</td>
<td>Upper body, chest, elbows, neck, shoulders and grip</td>
<td></td>
</tr>
<tr>
<td>3) Can mvt be taught? Trained to move?</td>
<td>Yes, certain to an extent, technical instruction involves mvt instruction</td>
<td>Yes, guidance, not formal instruction; No, not trained</td>
<td>Yes, trained to move for sound, no excess motion</td>
<td></td>
</tr>
<tr>
<td>4) Your teachers? Their approaches?</td>
<td>Primarily technical-grip, body pos., etc.</td>
<td>None at Moncton, Some at U of T with Bev</td>
<td>Liuzzi-timpani technique; Zeltsman, Udow, Skovoronicov-piano</td>
<td></td>
</tr>
<tr>
<td>5) If same piece multiple times, same mvt?</td>
<td>Similar, mvt structures interp; mvt are result of learning</td>
<td>Probably not; just key points, start &amp; end similar</td>
<td>Similar to extent; all performances diff; mvt never same</td>
<td></td>
</tr>
<tr>
<td>6) Changing pieces, also change mvt, how?</td>
<td>Yes, One sounds like one moves. Diff works require diff mvt</td>
<td>Yes, depends on repertoire, dynamics, passage, etc.</td>
<td>Stout-light; Abe-heavier; Bach-diff. because it's an arrangement</td>
<td></td>
</tr>
<tr>
<td>7) Any mvt type appropriate for any piece?</td>
<td>No, but could be adapted; Yes, he makes a decision</td>
<td>No, exaggerated movements can hinder piece</td>
<td>Focuses on tone color through mvt. Not visa versa</td>
<td></td>
</tr>
<tr>
<td>8) Situations where inappropriate to move?</td>
<td>Every mvt. should be reproduced in sound; weeds out other mvt.</td>
<td>Yes, technical passages, when need accuracy</td>
<td>Yes, end and beginning when silence is part of music</td>
<td></td>
</tr>
<tr>
<td>9) Diff mvt. for diff. audience size and type?</td>
<td>Yes, for audience in general; size/type impacts performance (?Corporel-type)</td>
<td>Yes, for audience in general; No for size/type</td>
<td>Yes, audience (2 way dialogue); practice room (1 way dialogue)</td>
<td></td>
</tr>
<tr>
<td>10) Background in musical &amp; mvt. activities</td>
<td>Sports, drum set, piano</td>
<td>Martial Arts, clarinet, Samba</td>
<td>Piano (age 5), mostly classical, some untrained jazz in high school</td>
<td></td>
</tr>
<tr>
<td>11) Additional thoughts/comments</td>
<td>All sound like they move; Mvt connected to interp.</td>
<td>Natural movement is good, tries not to pre-plan</td>
<td>His Colors Meth book-diff tones through diff strokes</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 17: Interview Patterns

Statistics and Key Words/Concepts Mentioned

Statistics

Female AGE range .......... 26-54 (avg-40)
Male AGE range .......... 28-40 (avg-34)
Female HEIGHT.......... 5’0-5’7 (avg-5’3 ½)
Male HEIGHT.......... 5’8-6’3 (avg-5’10)
Female WEIGHT .......... 90-140lbs (avg-115)
Male WEIGHT .......... 125-160+lbs (two did not give weight) (avg-142.5)
Occupation.................... All performers and teachers
Birth Place........ Taipei, US, CND, Japan, China
  -Female.................... (Taiwan, US, CND, Japan-2)
  -Male........................ (US-3 CND, China)
Current Place.............. All in US, CND
Years Playing Marimba........ 10-37 years (avg 23 ½)
  -Female.................... 15-37 years (avg 26)
  -Male ......................... 10-20 years (avg 15)
Marimba Type........ Adams-4, Yamaha-3, MarOne, DeMorrow, Malletech
  -Female.................... Adams-2, Yamaha-2, MarOne, DeMorrow
  -Male ......................... Adams-2, Malletech, Yamaha, n/a
Mallet Type................ Adams-2, IP, Encore-2, MarOne, Firth-3, Malletech
  -Female.................... Adams-2, IP, Encore-2, MarOne
  -Male ......................... Vic Firth-3, Malletech, n/a
Grip Type.................... Traditional-3, Stevens-5, Burton-2
  -Female.................... Traditional-3, Stevens, Burton
  -Male ......................... Stevens-4, Burton
Injuries......................... Fingers-4, Shoulder, Ears
  -Female.................... Fingers-2, Shoulder
  -Male ......................... Fingers-2, Ear
Repertoire.................... Contemporary-8, Transcriptions-2, Classical-2
  -Female.................... Contemporary-4, Transcriptions-2, Classical
  -Male ......................... Contemporary-4, Classical
Excerpts Prior Study........ Abe-2, Stout-3, Bach-3
  -Female.................... Abe, Stout-2, Bach
  -Male ......................... Abe, Stout, Bach-2
Recordings.................... Chamber-6, Contemporary-3, Solo-5, Bach, Cheung
  -Female.................... Chamber-3, Contemporary, Solo
  -Male ......................... Chamber-3, Contemporary-2, Solo-4, Bach, Cheung
Highest Education Degree...... College, BM, DMA
  -Female.................... College, BM, DMA
  -Male ......................... DMA
University Teaching……………….All except two participants, 8/10
- Female…………………………….4 (not Naoko)
- Male………………………………….4 (not Joël)

Hobbies………………………………Cook, Read, Exercise, Garden, Sew, Sing, Photos, Technology, Wine, Blog, Fish, Skydive
- Female…………………………….Cook, Read, Exercise, Garden, Sew, Sing, Photos
- Male…………………………………..Cook, Read, Exercise, Sports, Wine, Technology, Blog, Fish, Skydive

Interview Questions: Key Words/Concepts Mentioned

1) Do you think about your movements while playing? If so, what are some of the thoughts that run through your head? Please give an example.

In practice- Aiyun, Doug, David: 3 (1 Female, 2 Male)
Economy of Motion (E of M)- Beverley, Naoko, David: 3 (2 Female, 1 Male)
Accuracy- Ginny: 1 (1 Female)
Body Position- Doug, David: 2 (2 Male)

2) When/If thinking about your movements, do you generally focus your attention on any particular areas of the body? (i.e. fingers, hands, arms, upper body, head, legs, feet, etc.)

Lower Body: 6 (3 Female, 3 Male)
  Stance/Feet- Aiyun, Ginny, Beverley, Doug, Tom, David
  Hips-Doug
  Body Position-Doug, David
Upper Body- Aiyun, Ginny, Tom, Pius: 6 (3 Female, 3 Male)
  Chest-Pius
  Shoulders-Naoko, Pius
  Neck-Pius
  Elbows-Doug, Tom, Pius
Arms/Wrists/Stroke/Grip- Ginny, Naoko, Doug, Pius: 4 (2 Female, 2 Male)
Natural- Aiyun, Ayano: 2 (2 Female)
No, doesn’t think about it- Joël: 1 (1 Male)

3) Can movement be taught? Were you trained to move while playing? If so, what type of training did you receive?

Yes- All but Ayano (Ginny said “some natural some taught”): 9 (4 Female, 5 Male)
No- Ayano: 1 (1 Female)
Awareness-Aiyun
Observed- Beverley
Guidance-Joël
4) **Who have been your marimba teachers? Please describe their approaches in physical movements in regard to their teaching and performing?**

Russell Hartenberger- Aiyun, Beverley 3 (2 Female)
Beverley Johnston (student of Russell Hartenberger)-Joël (1 male)
Robert Van Sice- Ayano, Doug, David: 3 (1 Female, 2 Male)
Sound, Connection-Ginny, Doug: 2 (1 Female, 1 Male)
Economy of Motion- Ginny, Naoko, Tom: 3 (2 Female, 1 Male)
Communication- Ginny
Interpretation- Beverley
Grounded/Smooth-Naoko
Technical-Doug, David, Pius: 3 (3 Male)
Lower Body/Body Position-Tom, David: 2 (2 Male)

5) **If you played the same piece for multiple performances, would your movements be the same or similar each time? Why?**

Same- Doug: 1 (1 Male)
Similar- All but Doug and Joël: 8 (5 Female, 3 Male)
Not Really- Joël: 1 (1 Male)
Consistent/Practiced-Aiyun
Accuracy-Aiyun
Energy/Mood-Ginny, Tom
Instrument-Ginny
Interpretation-Ayano, David

6) **When changing pieces in a performance, do you also change your movements? How so?**

Yes, Different- All: 10 (5 Female, 5 Male)
Interpretation- Aiyun
Necessary- Aiyun, Doug
Style-Ginny, Beverley, (David, Joël, Pius)
Tempo-Naoko
Mallet Height- Naoko
Character/Mood- Ayano, Tom
Dynamics/Passage-Joël

7) **In your opinion, can any style of movement be appropriate for any piece?**
No- All participants (Beverley said Economy of Motion and Style decide): 10 (5 Female, 5 Male)
Communication-Ginny
Sound-Ginny, Ayano, Pius
Body Type-Naoko
Natural-Ayano
Extraneous/Distract-Doug, Joël
Mood-Tom
Connection-Tom
Adapted-David

8) Are there situations where you find it inappropriate to move while playing? Please explain.
Yes- All: 10 (5 Female, 5 Male)
Difficult Passages- Aiyun, Beverley, Naoko, Joël: 4 (3 Female, 1 Male)
Solo vs. Ensemble- Ginny
Exaggerated- Ayano, Tom
Sound- Ayano, David
Silence- Doug, Tom (beginning of piece), Pius (beginning and end of piece), Joël (mentioned beginning and end in other responses): 4 (4 Male)
Purpose- Tom

9) How does the audience play a role in your movements? Would you move differently depending on who the audience is, and whether there is an audience or not?
Yes, Different- Aiyun, Ginny, Beverley, Naoko, David, Joël, Pius: 7 (4 Female, 3 Male)
No Difference- Ayano, Doug, Tom, Joël: 4 (1 Female, 3 Male)
Practice- Aiyun, Ginny, Tom, (Pius-communication)
Larger gestures for larger audience-Ginny, Beverley
Exaggerated- Ginny, Ayano
Nerves- Naoko
Natural- Ayano

10) Please describe your background in musical activities and in any other activities related to movement (i.e. other musical instruments, world music, jazz, drumline, dance, sports, drama, etc.)
Piano- Aiyun, Naoko, David, Pius 4 (2 Female, 2 Male)
Other Instruments- Aiyun, Joël
Yoga/Stretch- Aiyun, Ayano
Dance- Aiyun, Beverley, Ayano: 3 (3 Female)
Singing- Ginny, Beverley
World Music- Aiyun, Ginny, Beverley, Naoko, Joël: 5 (4 Female, 1 Male)
Marching Band- Ginny
Performance Art- Beverley, Doug, David: 3 (1 Female, 2 Male)
Acting- Beverley
Sports- Ayano (jogging), Tom, David: 3 (1 Female, 2 Male)
Martial Arts- Joël, Tom (Tae Kwon Do), Doug (Tai Chi): 3 (3 Male)
Eurythmics- Doug
Jazz- Pius

11) Do you have any additional thoughts/suggestions/comments regarding movement?

None- Aiyun, Naoko, Ayano, Doug: 4 (3 Female, 1 Male)
Natural- Ginny, Joël: 2 (1 Female, 1 Male)
Personality- Ginny
Relax- Beverley, Tom
Communication- Tom
Sound- David, Pius (Tone/Stroke): 2 (2 Male)
Interpretation- David

Key Words/Concepts Mentioned

Upper Body: 6 (3 Female, 3 Male)
Lower Body: 6 (3 Female, 3 Male)
Body Position: 3 (3 Male)
Arms/Wrists/Stoke/Grip: 4 (2 Female, 2 Male)
Practice: 5 (2 Female, 3 Male)
Accuracy: 2 (2 Female)
E of M/efficient: 5 (3 Female, 2 Male)
Necessary: 2 (1 Female, 1 Male)
Distract/Extraneous/Exaggerated/Excess: 7 (3 Female, 4 Male)
Communication: 3 (1 Female, 2 Male)
Interpretation: 4 (3 Female, 1 Male)
Connection: 3 (1 Female, 2 Male)
Sound: 5 (2 Female, 3 Male)
Relax: 4 (2 Female, 2 Male)
Natural: 4 (3 Female, 1 Male)
Mood/Energy: 2 (1 Female, 1 Male)
Mood/Character: 1 (1 Female)

Response Patterns

If participants mentioned “Upper Body”, then most referred to it as one entity.
Most differentiated between “Upper Body” and “Arms/Wrists/Stoke/Grip”
More participants (8) mentioned “Upper” and/or “Lower Body” than “Arms” (4)
5 participants advocated “E of M” and “Efficiency”
7 participants discussed “Extraneous/Distracting/Exaggerated/Excess Motions” in a negative manner (although Beverley also said those types of motions can be positive at times)
5 participants discussed “Practicing” movements
5 participants discussed “Sound” as being connected to movement
4 participants discussed movement being “Natural”
4 participants discussed “Interpretation” as being related to movement
4 participants discussed “Relaxing” as an important part of playing the marimba

Gender Patterns

Fairly even split among females and males in interview responses
Only females mentioned “accuracy”
More females mentioned “interpretation” and “natural”
Females older than males on average
Males taller and heavier than females on average
Females playing marimba longer than males on average
Mexican Dance No. 2 by Gordon Stout (Beginning to Dolce)
Appendix 18b: Stout Excerpt, Page 2

*Mexican Dance No. 2* by Gordon Stout (Beginning to *Dolce*)
Appendix 19a: Bach Excerpt, Page 1

*Chaconne in D Minor* by J.S. Bach (49 measures from the end to the end)
Appendix 19b: Bach Excerpt, Page 2

Chaconne in D Minor by J.S. Bach (49 measures from the end to the end)

- used by kind permission of Breitkopf & Hartel, Wiesbaden -
Appendix 20a: Abe Excerpt, Page 1

*Variations on Japanese Children’s Songs* by Keiko Abe (Last two pages)
Appendix 20b: Abe Excerpt, Page 2

Variations on Japanese Children’s Songs by Keiko Abe (Last two pages)
Appendix 21: Informed Consent Letter

UNIVERSITY OF TORONTO

Researcher: Michelle Colton

Title: University of Toronto-Doctor of Musical Arts (DMA) candidate

Contact: (416) 893-5334  michellebethcolton@gmail.com

Supervisor: Dr. Russell Hartenberger

Project Title: “Physical Gestures in Music: Questioning Typologies and Exploring Connections in Western Solo Marimba Performance”

Participants: 8 Professional Marimbists-4 female and 4 male.

PURPOSE

The purpose of this project is to research four-mallet marimbists’ physical gestures and reasons for those gestures. All of the subjects in the study will perform the same musical excerpts in order to provide a comparison among the eight individuals. The research question to be examined is “Why do marimbists move the way they do while performing?” The data gathered from this research could change the way in which marimbists approach movement in performance and teaching. There is existing research on physical movement and marimba performance; however there is an absence of critical research on the reasons for those gestures.

PROCEDURES

The procedures involved in this research will include video recordings of four short musical excerpts, as well as interviews. Each of the eight marimbists will first be sent a list of interview questions via e-mail. The second step will be the video recordings of the four musical excerpts. The third step will be to discuss the interview questions on video, in order to gain more insight and elaborated responses.
TIME INVOLVEMENT

The time involvement will be the time it takes the participant to respond to the interview questions via e-mail, as well as an additional 30-60 minutes for the live recording and discussion. The preparation time to learn or re-learn each of the short musical excerpts will vary among each marimbist.

PARTICIPANTS/WITHDRAWAL RIGHT

Each marimbist is being approached because of his/her status and professionalism in the field of marimba performance. The intention of this research is to work with 8 of the top marimbists. Each marimbist is invited to participate in the project. The individual may refuse to participate, and may withdraw at any time without negative consequences, and may also decline to answer any question or any parts of the procedures/tasks.

QUESTIONS

Participants may, at any time, contact the Office of Research Ethics at ethics.review@utoronto.ca or 416-946-3273 if any questions arise regarding rights. Video recordings will be used solely for the purposes of this project. This is a low-risk project and is not intended to cause any discomfort to the participant.

RISKS/BENEFITS

The benefits include a broader knowledge of movement aspects in marimba performance. Each participant as well as the larger field of percussionists may benefit from this research in the area of performance and teaching. Given that this is a low-budget research project, participants will not be financially compensated for their involvement. The participants will, however, receive a copy of and/or access to the finished written document. Following the interview and video recording, participants may have access to the data at any given time.

CONFIDENTIALITY

All data will be confidential and will not be used outside of this thesis. All data will be destroyed after the research is complete. Participants may use pseudo names to protect his/her identity. Participants may choose not to answer any interview question that is asked. It is with utmost appreciation that this project be a consideration of your time. Any questions may be directed to the above contact information. Thank you for your time.

Michelle Colton

Has the participant read the information material and is willing to proceed? _______________

Name of Participant_________________________________________ Date___________
Appendix 22: Research Study Schedule (November 11, 2011)

Schedule:
8-9 Set Up
9-9:45 AIYUN HUANG
10-10:45 GINNY ARMSTRONG
11-11:45 break
12-12:45 TOM BURRITT
1-1:45 PIUS CHEUNG
2-2:45 break
3-3:45 AYANO KATAOKA
4-4:45 DOUG PERKINS
4:45-5 tear down

Session Format:
On the hour, arrive at the research room. Only enter when the door is open.
About 5 minutes to warm up
About 20 minutes of performing excerpts
  Stout excerpt 1st time, 2nd time
  Bach excerpt 1st time, 2nd time
  Abe excerpt 1st time, 2nd time
  Excerpt of choice 1st time, 2nd time
About 15 minutes to discuss previously answered interview questions (Due Nov 1)
Refreshments, exit around 40-45 min past the hour for me to reset the room.

FYI:
1) I will let the two video cameras and audio device run throughout the session. Any breaks between excerpts are welcome but not necessary on my end.
2) I will have a technical support assistant with me during each session.
3) I will provide the five-octave marimba, different block sizes for height adjustments, 4 music stands, extra sheet music, extra mallets, mallet tray, video/audio forms, interview responses from you, light refreshments. Please bring anything else you may need.
Appendix 23: Video/Audio Permission Form

On Friday, November 11, 2011, an audio recording and two videos were recorded as part of Michelle Colton’s University of Toronto Doctor of Musical Arts research study on physical gestures in marimba performance. All participants have the right to keep the recordings private or to allow the recordings to be used in the thesis document that could be publicly viewed by others.

Please check one and sign below.

**Yes**, I will allow the video/audio recordings to be used in the public thesis __________

**No**, I will not allow the video/audio recordings to be used outside of the committee ________

If you would only like part of the video/audio to be public, please indicate the pieces you would like to make available to the public _______________________________________________________________________

Participant’s Name (print) ___________________________ Date __________________________

Participant’s Signature ___________________________ Date __________________________

Researcher’s Signature ___________________________ Date __________________________
Copyright Acknowledgements

1. *Mexican Dance No. 2* by Gordon Stout
   Copyright 1997 Studio 4 Music
   By Marimba Productions Inc.
   P.O. Box 467 Asbury Park, NJ 07712

2. *Chaconne in D minor* by J.S. Bach: BMV 1004
   Brahms version published in 1879
   Breitkopf & Hartel, Edition Breitkopf, Nr. 6018
   Walkmuhlstrabe 52, 65195 Wiesbaden, Germany

3. *Variations on Japanese Children’s Songs* by Keiko Abe
   Copyright 1981 Yamaha Music Foundation (Japan)
   Yamaha Music Publishing Inc.