Unblocking Performance Blocks: An Interdisciplinary Approach towards an Exploratory Study on Musical Performance Blocks in "Late Arriving" Pianists

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Abstract

Unblocking Performance Blocks: An Interdisciplinary Approach towards an Exploratory Study on Musical Performance
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This thesis critically examines performance blocks among late arriving pianists. In particular, this thesis tests the potential of the Bio-aesthetic Approach to Musical Performance (BAMP) developed by Phil Cohen, in reducing established performance blocks through an exploratory methodology.

BAMP is evaluated in terms of the performer's somatic and cognitive experiences in unblocking via the organization principle of sketch and test mode of verification. Specifically, this thesis considers the effectiveness of BAMP concepts in enhancing coherence in music performance – these include aesthetic order; cross-modal synchronization; expressive timing; homeokinesis; vocabulary; metaphoric imperative; paradoxical causality and delegated external / embodied conductor.

Through a three-part research study – (1) case studies: one reflective, two participatory, and two observational; (2) a two-year case study with a late arriving pianist; and (3) interview studies with three career track concert pianists – a select number of tangible contributions to the formation of blocks have been examined. Effective unblocking processes have also been explored with late arriving pianists using

concepts from BAMP. This study demonstrates that BAMP provides a useful perspective towards the study of musical performance blocks in late arriving pianists.

The subtext of the research is to encourage researchers, performance analysts, and pedagogues to re-examine existing assumptions about appropriate methodology, pedagogical practices and approaches to musical performance.

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Chapter 1: Introduction

The Problem of Performance Blocks[1]

Performance encompasses virtually all aspects of our life – from cultural rituals, work, arts, technology, communication, and sex to dissent and resistance. Performance is everywhere that it evokes that circle of mist which, according to Friedrich Nietzsche, envelops any living thing and without which life becomes *"withered, hard, and barren...Every people, even every man, who wants to become ripe needs such an enveloping madness, such a protective and veiling cloud"* (trans. Preuss, 1980, p. 41). Indeed, performance has become our mist, our mad atmosphere (McKenzie, 2001).

In our lifetime, we may be confronted with situations in which we are obliged to assume the role of a performer whether by choice or by necessity. As a performer, we are expected to provide our audience the best of what we have, or to convey our ideas, in the most effective way possible. In many instances, however, especially when the outcome is of utmost significance, we may not achieve what is expected of us. Usually, performers suffer from performance interference and blocks to various degrees. Often, performance interferences are more common to stage, dance, and musical artists. In a stage play, an actor may forget his lines and draw a total blank on stage. An experienced ballet dancer may injure her ankles due to pirouette error, or a break dancer may twist her elbow for a wrong routine. An opera singer may feel a sudden tightness across her chest under the limelight causing her to stop breathing, panic and start scrambling up her highlight of the

[1] "Performance block," "musical block," and "musical performance block" are used interchangeably throughout this text.

evening. Moreover, a solo concert pianist may realize that she is suffering from a vast array of symptoms and problems, ranging from performance stress and anxiety, problems in memory, difficulties in physical and attention control, performance inhibitions and performance related ailments, or even burn out, and eventually can no longer meet the unrelenting demands of her performance career.

Performance blocks have been a pervasive phenomenon in the human experience. They are a ubiquitous fact of life and have plagued both neophyte amateurs and veteran performers. Although performance block experiences are sometimes short-lived, they can easily develop into chronic habits with serious side-effects and repercussions when left unattended or inappropriately addressed. The recurrence of these alarming experiences to a performer may become difficult to eradicate later, and can subsequently hamper the integrity of his/her future performances. Certainly, performance interferences, no matter how seemingly insignificant they may appear at the outset, require immediate attention. Otherwise, the effects of interference can easily become a way of life for the performer, to the detriment of her career.

Along these lines, this thesis will analyze the nature of performance blocks by focusing on blocks as they are experienced by musicians, especially late arriving pianists. The analysis will be approached from several different perspectives and will explore, in particular, the Bio-aesthetic Approach to Musical Performance (BAMP) framework proposed by Cohen (2005; in press). It is hoped that these analyses will make it possible to establish a link between an understanding of musical performance blocks as experienced subjectively by musicians and an understanding that is situated within a behavioral science approach to the question.

Description of the Subjective Phenomena

A deep level of musical performance blocks may be characterized by Wilhelm Reich's cartoon drawing of a man in shackles who does not know what to do when the chain is broken (Reich, 1973). Cohen (2004, personal communication) recounted the case of an internationally renowned concert pianist and conductor once complained that he had problems playing simple trills. Cohen helped him ease into performing the trills in his piece evenly but he was convinced that he was unable to play trills evenly despite his phenomenal musical and technical skills. The real issue in this case is that when shown that he could play, he panicked and blocked. He could manage to play trills successfully, but when repeated over and over, he could not do it anymore. This indicates a much deeper level of blocks – which are in many ways similar to blocks as experienced by the performing musicians interviewed for this study. These observations suggest that considering a performer's subjective experience of blocks may yield valuable insights into what is happening during a block.

In dealing with performance blocks and in assisting the blocked performer in unblocking, it will prove crucial, as will be seen later, to consider the performer's subjective experience of it. This is because formal musical performance is a complex activity that is performed "live". Imagine, for example, the case of a "live" concert performance, for which the pianist may have spent hundreds, if not many more hours of practice, trying to memorize the score and produce a flawless performance. She might have performed flawlessly at the practice room, or during rehearsals for her coach. However, as the performance date approaches, the performer becomes more and more apprehensive. Back at the green room, heart palpitations occur, the breath becomes

shallow, the body freezes, palms sweat. On stage, the performer is blinded by the dazzling lights, and may forget how to begin the piece. The performer loses focus and concentration, and scrambles through the piece. Movements become stiffer than ever, losing the fluidity of rhythmic and tonal control which came swiftly and expressively.

All former preparation seems to have gone to waste, as nothing seems to work. The performer is no longer in command on stage, let alone being able to touch the hearts of the audience through the music. The performance no longer sounds convincing, when the performer has lost her sense of conviction, or focus to convey musical emotion on stage. In this condition, the performer is in an "off" state, or in other words – blocked. These transient and elusive experiences perhaps may not be easily examined by researchers, nor clearly communicated to the observer. However, these experiences of blocks are as traumatic as they are debilitating and real to the performer.

Defining Performance Blocks

Before elaborating on the characteristics of the performance block experience, it is necessary to define first what constitutes a performance block as understood in this thesis.

(a) Traditional Understanding

Webster's Dictionary defines a "block" as "an act of obstructing" or, an "interruption or cessation, especially of train of thought by competing thoughts or psychological suppression". Further, the Penguin Dictionary of Psychology identifies "block" as: (1) "Any obstruction or barrier which prevents a process from occurring" which ranges from "physical barriers which impede flow through a passage, [to]

psychogenic barriers (emotional blocks)" and (2) "An abrupt cessation in the flow of some ongoing process, where the usage is generally restricted to processes like speech and thought". Lastly, the American Heritage Dictionary refers "block" as synonymous to the terms "hamper", "hinder", "impede", "interfere", and "obstruct". From these lexical definitions, we may extrapolate that, a block in musical performance – or, for that matter, any "stumbling block" in any activity -- could potentially be perceived as or become a barrier to flow in performance.

The general definitions above, however, provide us little understanding about the performer's experience of being blocked. Moreover, neither do these definitions consider interferences to be a potential key to blocks, let alone address the web of pedagogical and performance difficulties that are inevitable when one attempts to deal with the condition. The major limitation of these dictionary definitions is that a critical part of the equation has been omitted – that is, the simultaneously subjective and objective experience of the observer/participant (Berman, 1981).

(b) Operational Definitions

In responding to the need of an alternative approach for a scientific study that acknowledges and takes into account the subjective and objective experience of the observer/participant, this thesis will use the following operational definitions of blocks in musical performance:

(1) A block is a problem condition where a difficulty occurs chronically. If a problem, including an error, difficulty or uncertainty persists independently of the effort or time dedicated to practice, quality of work placed on the reinforcement and preparation

for the performance, quality of instruction, native ability of the performer, then the performer will be considered to be experiencing a block. In other words, an occasional mistake, accident or sudden slip in the heat of performance, and performance difficulties that arise as a result of lack of experience, insufficient practice or preparation do not comprise a block.

(2) A block refers to failure in accomplishing a level of musical performance that normally should not pose any difficulty for a particular individual, yet nonetheless failure occurs. When the performer experiences a block, performance is at a level below what the performer is normally capable of delivering. The "I played it better at home" syndrome characterizes the phenomenon in which a performer can play a piece of music with little or no difficulties in the privacy of the practice studio, but stumbles when confronted with a formal performance situation in the presence of an audience. This can occur even when this audience may be as familiar and unthreatening as the performer's family or performance coach.

Defining "Late Arrivers"

Although the experience of block is a part of a musician's life, it may be more common to performers who start their musical instruction late, or the late arrivers. How do we define "late arrivers"? Before defining, it must be emphasized that becoming a professional artist-level performer requires a lengthy period of time. Usually, this begins at a very early age and music is acquired as a first language. In addition, before achieving a respectable status in the music scene, the performer undergoes training and development that includes consistent high quality of instruction, a supportive structure,

opportunities for public performances, and critical feedback over an extended period of time.

In the context of this thesis, late arrivers are referred to those who generally have an inconsistent background. They also refer to performers who may not begin musical instruction early or those who may not begin their musical training with high quality professional instruction. Late arrivers do not have a consistent level of exposure and may not have the opportunities to receive honest critical feedback. These individuals may also have a naïve view of what is involved in the practice, rehearsal and performance process. Finally, late arrivers can be anyone from aspiring artists to world class professionals who, for whatever reasons, have unresolved problems that have to be dealt with. Examples of late arrivers in this category include performers who have developed blocks as a consequence of a history of training, practice and past performing experiences and mature performers who have experienced chronic, unintended failure in the context of formal performance.

Causes of and Some Examples of Musical Performance Blocks

The sources and examples of musical performance blocks are numerous. These include blocks associated with, among others: performing works by a certain artist; demands imposed by a particular performance environment; feeling of being judged than appreciated; and recent personal performing experiences. Other causes and examples of musical performance blocks include musical precocity, premature exposure, celebrity status, and exploitation.

Up through the early 1800's, musicians were considered to belong to a low social

class. It was Franz Liszt who changed this perception and initiated the "super star" phenomenon. Since then, concert artists have caught the attention of the audience, of which some are revered as "stars" in the public eye – ranging diversely from pianists like Vladimir Horowitz, Artur Rubinstein, Liberace, Elton John, to Lang Lang and Yundi Li. In some ways, emerging pianists are faced with the expectation that they have to measure up to unspoken standards set out by Liszt and to outperform their predecessors and to please their audience.

It is also interesting to note that the circle of classical music has evolved itself into an exclusive club of "high brow" connoisseurs within a "stuffed-shirt" culture, in which classical music is conducted in a "serious"[2] atmosphere, and considered to be a form of music which is to be clearly distinguished from folk and pop music. It must be noted that this serious treatment of classical music is a relatively recent phenomenon; at the times of Bach or Mozart, performance was treated more as a causal and light-hearted activity (Green, 2003). Associated with these images of celebrity and the seriousness and formal setting of musical performance, however, is a unique psyche that can become a major cause of blocking for the musician.

The experience of blocking is not confined to the inadequately prepared performer, inexperienced amateur or neophyte artist. Blocks can be manifested and reinforced from formative stages of development through to the highest artistic level. A block can emerge when the artist is confronted with works by a specific composer, a particular musical piece or even repertoire within a certain musical period. For example, Sviatoslav Richter confessed his discomfort in performing works by Mozart despite their

[2] With the rare exception of composers and musicians like bassoonist, Peter Schickele, who created works by P.D.Q. Bach to bring humor to the classical world of music.

relative technical simplicity (Monsaingeon, 1998).

A block can also be related to the special demands imposed by a particular performance environment, such as, in the presence or absence of an audience or even at a particular performance venue or geographical location. Glenn Gould suffered from a progressively debilitating block that ultimately grew in anxiety so paralyzing that he was unable to perform in public (Teachout, 1998). On the other hand, there are other performers who thrive on the concert stage, but are yet blocked by the absence of a live audience. Richter only felt comfortable when performing for a live audience; the lack of audience feedback in a recording studio would cause him to suffer anxiety attacks that frequently resulted in severe memory lapses (Monsaingeon, 1998).[3]

Another potential source of blocks is performance doubt and anxiety. Although some artists deem that a certain level of performance anxiety is necessary and can help to facilitate their performances, others claim to suffer debilitating anxiety and extreme levels of distress before or during a performance that can become totally incapacitating. Under situations of stress, blood pressure and heart rate and respiration rate increase, digestion slows down, pupils dilate and hands begin to sweat; senses are heightened[4], level of adrenaline is increased in the bloodstream (Fredrikson & Gunnarsson, 1992), and our bodies prepare us to flee for our lives.

Although understanding performance anxiety from a sociological perspective may provide reasons as to why a performer may become anxious, it does not however address the performer's direct experience of the block, and how it relates to the entire musical,

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[3] Richter's decision to authorize the release of some of his studio performances with mistakes unedited, could be understood as a tribute to his integrity – or perhaps, a desire to get out of the recording studio.

[4] As Steptoe (2001) describes, an individual is in a "*heightened state of physiological arousal*".

biological and artistic context of the performance in a stage setting. For this reason, the thesis will approach the issue of performance blocks from an artistic perspective, hoping that by understanding the first hand experience of the performer in the situation of a block, some practical solutions that are artistically, aesthetically and contextually based may be developed to help unblock the musical performer.

A Bioaesthetic Approach to Musical Performance

There are a number of different approaches to addressing the issues raised above. One approach sees musical performance blocks from a biophysical perspective, placing blocks in the category of phenomena that can be pharmaceutically treated with, say, beta blockers (Harris, 2001; Lederman, 1999; Sataloff, Rosen & Levy, 1999) or treated with meditation, biofeedback (Hodnett, 1999; LeVine & Irvine, 1984) or related techniques. These approaches have perhaps the largest literature associated with them. It will be argued later, however, that these approaches have serious shortcomings. In their place, a less well-known but promising approach to musical performance in general and performance blocks in particular will be examined. This is Philip Cohen's (2005; in preparation) Bioaesthetic Approach to Musical Performance (BAMP). The main premise of BAMP is this:

> *A "bioaesthetic" understanding of musical performance involves understanding the expression of musical aesthetic intentions as reflecting the organization of the whole human body in response to the demands of the performing context.*

Given this starting premise, BAMP takes a multi-disciplinary approach in addressing many questions about the nature of performance blocks. In this study, the bioaesthetic approach is distinguished from biomechanics. Consider a stand-up comic performing in a

live audience. In studying the performer's biomechanics, we might begin by checking and observing her breathing, pulse, muscle tone, speed of response, speech patterns, tongue, larynx formation, posture, and body movements. These are all biomechanically measurable and quantifiable – however, they hardly tell us about the experience of the performer: why do they lose focus, why did they poorly time the punch line, or in a more positive light, how do they capture the audience, and cause them to laugh?

In contrast to a bio-aesthetic approach, bio*mechanics*, however, fails to consider one of the most important factors underlying performance – timing. It is a common knowledge that the talent and skills in, for example, delivering a punch line heavily depend on timing. Timing of what, where, when, and how? As soon as the observation shifts to this level, we are dealing with the bio-aesthetic experience. In this dimension, we are particularly interested about how the stand-up comic conditions the audience and molds the build up to the punch line, when she delivers it, her tone of voice in saying it, and the surprise effect on her audience that follows. All of these are time sensed judgments that add up to a bioaesthetic experience for both the performer and the audience. When taken as a whole these will, as will become clear, provide significant meaning for pedagogues and researchers, as well as for the artist.

A full understanding of BAMP requires addressing primary themes such as aesthetic order, expressive timing, homeokinesis, cross modality synchronization (CMS), metaphoric imperative, vocabulary, paradoxical causality, and a sketch / test and digress model of verification during practice, rehearsal and performance. These are dealt with more fully in Chapter 3 but it is useful to discuss these briefly here. As noted in our example of the stand-up comedian, *timing* is an essential factor in utilizing BAMP as a

method in analyzing musical performance blocks. For this current study we define timing as a "function of a sensed aesthetic idea, which is experienced biologically and communicated in real time." In the musical performance context, timing requires the ability to simultaneously make and act upon sensed judgments continuously, concurrently, and consistently in real time. According to Suzanne Langer, "[m]usic makes time audible, and its form and continuity sensible" (Langer, 1953, p. 283).

Aesthetic order, distinguished from conceptual order, involves perception of beauty, spatial and temporal relationships, elegance, line, shape and emotive tone, flow, and generative movement. According to Cohen (2005; in preparation), the bio-aesthetic experience has its roots in the primary sense experiences of rocking (rhythm), touch, emotive tone, balance, rhythmic movement, and direction of energy. In other words, aesthetic order deals with sense qualities communicated from the performer to the audience. The biological correlates to the aesthetically timed musical experience include the integration of the performer's neuro-muscular and vegetative resources (Cohen 1996, 2005).

In every musical performance, the performer tries to maintain balance and flow through time, change, and unanticipated contingencies. This ability is known as *homeokinesis*. When precisely timed and aesthetically conceived, homeokinetic integration demonstrates that creativity is not necessarily confined to articulating the text, but includes the ability to craft the environment.

Cross Modal Synchronization (CMS) happens when we learn to correlate multisensory inputs with our experiences when exploring our environments with our bodies and senses (Iyer, 2002). CMS is achieved by pairing two or more sense

modalities. In the musical performance setting, "listening to and producing music involves a tantalizing mix of practically every human cognitive function" (Zatorre, 2005). In the literature review chapter of this dissertation, the phenomenon of synaesthesia, a neurological condition where sensations are involuntarily combined (Cytowic, 1993), is discussed.

Related to the concept of CMS is the *metaphoric imperative*. In a music class, the teacher and the students talk about how warm or brilliant or sweet a tone is, the cool interpretation, a well-shaped phrase, an exquisitely shaded musical line, harmonic coloring, chilling performance, and biting attack. When taken literally, and for the many uninitiated, these pairings do not make any sense – yet they are immediately and seemingly universally understood. Indeed, a directive to play softer (piano) while factually precise, is aesthetically imprecise when compared to a directive to play the piano with a sweeter, tender color (Cohen & Chan, 1998, Cohen, 1996).

Finally, *paradoxical causality* concerns temporal and spatial modalities and relationships may be cognitively re-structured (paradoxically) to establish uninterrupted flow. For example, in rapid passage work that requires split second accuracy, one musical *voice* may cause another to sound. At a physical level, cause may be delegated. For example, one finger may cause another to move, a visual image of the text may cause a tactually perceived pattern of sounds.

Justification of BAMP

In examining bio-aesthetic approach with respect to existing literature in cognitive psychology, neuropsychology, musical performance and other disciplines of the performing arts, it is observed that they do not address the bio-aesthetic and musical

issues involved in musical practice, rehearsal and performance as seen from Cohen's BAMP. Moreover, most of the psychological studies on musical performance deal with isolated aspects of musical performance which may not necessarily be relevant to the creative and artistic performing experience. These perspectives do not deal with helping the musical performer in terms of addressing the specific musical context, aesthetics involved in order to bring about musical expression, nor do they mention anything about the unique subjective experiences of each individual musical performer. See the next chapter for the review of literature.

In response to this issue, Cohen provides researchers an excellent lens to bring the real issues in focus. BAMP not only addresses all these issues in an experientially tangible manner, but also views the process within the performing artist as a gradual developmental process. The perspective of BAMP may offer useful clues as to how unblocking for the late arriving pianist can be achieved. Many approaches close to Cohen's bioaesthetic approach have attempted to explore the nature of blocks but do not fully provide a comprehensive understanding about musical performance. The psychobiological literature on stage fright and performance anxiety is the closest example the literature provides in dealing with musical performance blocks. However, the stage fright literature does not probe deeply enough, from the perspective to be developed here, into the factors underlying blocks.

Justification of Studying Late Arrivers

Why the need to study the late arriving artist? One of the major reasons is that research with late arrivers and others who have demonstrated a desire to go beyond their apparent limitations provide a unique opportunity for co-experimental exploration

towards unblocking. Another advantage of working with this group is that a significant number of blocks may have been accumulated by these individuals and reinforced over a relatively long period of time. As a consequence of prolonged reinforcement, blocks developed may be deep rooted and more pronounced. Moreover, these participants also provide a wealth of first hand experiences on a wide spectrum of blocks. These may offer insights into the generating dynamics of blocks. For purposes of this thesis, this participant group will be referred to as "late arrivers."

Thesis Overview

The thesis has a number of interrelated goals. The first is to provide an analysis of musical performance blocks and the most common approaches to them (Chapter 2). Another is to examine in particular a bio-aesthetic approach to musical performance in terms of the contribution it can make to understanding and resolving musical performance blocks (Chapter 3). A third is to outline and explore a research methodology that has the potential to shed important light on the nature of musical performance blocks (Chapter 4). A fourth is to present detailed analyses of specific cases of musical performance blocks (chapters 5-7) using the conceptual tools discussed in the earlier chapters. Finally, by way of summary and conclusion (Chapter 8), the thesis aims to articulate an understanding of musical performance blocks, based on the approaches reviewed in the thesis, that will be accessible to the scientific research community to enable a fuller collaboration between artists and scientists on this important and interesting phenomenon.

Chapter 2: Literature Review

This chapter aims to place issues concerning musical performance blocks in their larger intellectual context. For this purpose, the chapter reviews the literature pertaining to blocks in performance disciplines other than music, such as theater and dance. Moreover, the chapter also tackles the role of psychology and neurology in understanding musical performance blocks. Specifically, the role of practice, transfer of practice, training and performance, thought suppression, situated and embodied cognition, Multisensory aesthetic experience, and the embodiment of emotions, in musical performance are discussed. As will emerge from this literature review, it will be seen that previous studies have focused their attention on biomechanics approach to musical performance rather than on its bioaesthetic nature.

The chapter is divided in the following subsections: blocks as discussed in the non-musical performance literature; performance as discussed in the musical literature; the role of practice, training and performance; psychological and neuropsychological perspectives; and, finally, keyboard methodologies for developing musical performance abilities.

Blocks as discussed in other performance disciplines

Virtually every discipline in the performing arts, (apart from music) has attempted to deal directly with the question of blocks. These include theatre (Spolin, 1963; Stanislavski, 1961; Wangh, 2001) and dance (Laban, in Newlove 1993; Hamilton, 2000; Howse & McCormack, 2000) and even sport (Csikszentmihalyi, 1999; Maniar, Curry, Somers & Walsh, 2001). In both theatre and dance, not only does training emphasize the

unity of body, mind and creative intent, but also, the performer is constantly "performing off" other individuals so that verbal and non-verbal cues can be exchanged continuously. In contrast, the solo musical performer is in a much more exposed condition where cues must come from oneself and the relationship to the sound itself (Gordy, 1997). This is compounded by pedagogical methods that emphasize immobility of gesture and fixed concepts of movement. Over the past 100 years, experiments in these disciplines have increasingly emphasized the mind-body expressive approaches to free the performer from social conditioning (Kumiega, 1985).

By way of illustrating current approaches to unblocking, it will be instructive to consider the works of four highly influential 20th century performance analysts in theatre and dance—Stanislavski, Spolin, Grotowski and Laban.

In one of his later works, the great early twentieth-century innovator in theatre, Constantin Stanislavski (tr. 1961) proposed that the actor could extricate herself from the "block" of falling into theatrical clichés by internalizing specific techniques related to a particular role. In "Creating a Role", Stanislavski maintained that, beginning from the preparatory phase, it is not enough for an actor to have a thorough understanding of the script. An actor must immerse herself in the role by synchronizing the intended feelings with physical sensations and movements required for the part.

The American theatre coach, Viola Spolin (1963) also developed a number of ways to help actors dissolve blocks on stage. In her unique improvisatory approach, she presented materials to the student actor in a physical, non-verbal way, rather than taking a purely intellectual or psychological approach. She did this in order to communicate a personal and concrete experience that could be grasped more easily. Spolin engaged

actors and auditors in improvisational activities and game playing improvisations designed to free them from their "ego-driven inhibitions." Spolin insisted that game playing improvisation frees one's intuition so that one can focus on stage business.

Jerzy Grotowski, one of the most significant theatrical innovators of the second half the 20th century, followed in Stanislavski's footsteps with a vision of acting as a profoundly creative endeavor. Grotowski (1968) noted that only a negative training (via negativa) can be used to remove blocks. This suggests that, once these inhibiting obstacles are dislodged, creative expression can be restored. Grotowski's holistic vision of the actor extends beyond the mind-body emotion paradigm to the question of memory. As Jennifer Kumiega (1985) puts it for Grotowski, "we do not possess memory, our entire body is memory, and it is by means of the body-memory that the impulses are released". Grotowski insisted that his approach is not a method, but a discipline that integrates the language of imagery and personal exploration in a highly experimental manner that frees one to move expressively.

Finally, Rudolf Laban, the developer of a system of dance notations known as Labanotation, attempted to help dancers search for a convincing stage character through exercises designed to free their expressive movements (Newlove, 1993). This attempt presented a monumental problem since the dancer must communicate entirely through non-verbal gestures and movements. Laban argued that the lack of spontaneous joy and freedom in expressive movement leads to a decrease in kinesthetic ability, which consequently becomes a major contributor to the condition of being "blocked". Laban proposed that by observing and analyzing movements, it is possible to recognize and become aware of one's "*inner attitude*" which precedes an action. Here, before

committing to a physical movement, the dancer must know "*where*" she is going in space, observe and analyze "*how*" she is going, and "*what* kind of movement energy" she uses.

To sum up, the common theme permeating the movement-based disciplines of theatre and dance is that blocks can be avoided from the outset by placing a primary focus on direct communication of emotion through movements. In contrast, as will be shown later, issues essential to the understanding of blocks in formal musical performance—including how blocks may reflect the cognitive, physiological, musical and aesthetic organization of the performer—still remains an uncharted territory.

Blocks as discussed in the musical performance literature

It is interesting to note that in the case of theatre and dance there has been fairly extensive theorizing about the nature of movement in performance from acting and dance coaches, but there have been few studies of an empirical scientific nature on this topic, especially regarding the performer's subjective experience. On the other hand, in the literature on musical performance, there is comparatively less developed theory from musicians and musical performance coaches about the nature of movement in performance, but there have been quite a number of studies of an empirical scientific nature regarding movement in musical performance. These include, for instance, the relationship between musical rhythm and body movement (Clarke, 1997; Fraisse 1982, Gabrielsson, 1982), temporal control of musical performance movement sequences through representations of intended actions and processes (also known as motor programming) (Keele & Summers, 1976; Shaffer, 1981), and kinematic relationships between aesthetically satisfying performances and biological motions (Shove & Repp,

1995). However, relatively few of these have looked at the dimension of subjective experience.

This literature review illustrates how empirical researchers have focused on musical performance by reducing the entirety of the expressive experience to specific, narrowly defined aspects of it, particularly those that are easily quantifiable, and in contexts that are far removed from the contexts of live musical performance. Such studies neither deal with the reality confronting the performer in a formal situation, nor address the complexity of realities experienced in practice, preparation, associated emotions and other contingencies faced on stage in the final performance. As Balzano (1989, p. 440) asserts, many research studies falling under the rubric of human performance are essentially "brief snippets of behavior, not very much in the way of connected, meaningful, expressive behavior at all."

The literature thus presents an interesting gap in the way movement in performance has been treated. On the one hand, as we have seen that the literature written from the perspective of actors, dancers and theatre and dance coaches focuses on the expression of emotion in movement and on the relevance of the performer's subjective experience for successful action. Relatively little has been written from a theatre or dance perspective involving an experimental research approach. In contrast, the music performance literature provide mostly a experimental research approach to movement, and focuses little on the expression of emotion and the relevance of the performer's subjective experience for successful action. An important goal of this thesis is to bridge this gap—to see if insights from the theatre and dance perspective can inform approaches to musical performance blocks.

The musical performance literature, in contrast to the theatre and dance performance literature, has left untouched many questions crucial to the understanding of blocks in formal performance. These include the following: What are the performer's physiological, psychological and behavioral experiences when in a blocked condition? What are the causes, and characteristics of musical performance blocks? How do they relate to the assumptions and background of the performer? Are musical performance blocks specific to the performer, or are they global manifestations of personal limitations?

Admittedly, there are some empirical studies that have addressed certain key features that the theatre and dance literature have indicated are important for achieving a fluid and satisfying performance experience. For instance, Sloboda and Juslin (2001) studied the roles of emotion in musical experience in order to investigate how and why people experience certain emotional reactions to music, and how those experiences relate to the expression of emotion through music. Walsh (2001) studied the performer's experiences of non-verbal communication, examining the feeling of a peak experience during performance. Walsh's work echoes Csikszentmihalyi's (1991) notion of flow or "autotelic experience," in which individuals perform optimally when they are fully immersed in the task at hand. Such studies have investigated the achievement of optimal performance by means of the direct identification of a flowing experience by tuning into the subjective realities of the performer. However, such studies are still clearly in their infancy because, as will become clearer later, they have not examined how performing experiences can be organized in bioaesthetic ways that bring about autotelic experiences

in virtually any mode of action. It is suggested that finding autotelic experience is a general capacity; it is not domain-specific (Bates, 2004).

In recent years, there has been a gradual movement toward a more comprehensive approach to the study of high level human performance, going beyond a close examination of isolated aspects of performance and taking a more integrated perspective. For instance, a recent study by Lacaille, Whipple and Koestner (2003) investigated whether a difference in the nature of goals can influence performance-related anxiety in elite sports and music performance. Interestingly, the results showed a remarkable difference between athletes and musicians. Athletes in that study functioned optimally with goals based on performance mastery and performance approach (which are extrinsically oriented), while musicians fared much better with goals that were focused upon enjoyment of the task, which are intrinsically oriented. The authors noted that performance directed goals may be detrimental for musicians when issues of performance related anxiety may be at stake.

Consistent with the findings of Lacaille et al. (2003), Wulf and Prinz (2001) proposed their "constrained action hypothesis" which holds that an external focus of attention is more effective than an internal focus of attention. According to this hypothesis, attempts to control one's own movements consciously can disrupt functioning of the motor system by interfering with automatic control processes. In contrast, focusing on the effects of one's movements promotes the use of automatic control processes, thereby allowing the motor system to organize itself in a more natural way. The results of Wulf et al. (2001) also suggest that external focus conditions not only result in faster and

more frequent adjustments of the balance movements, but also in faster probe reaction times in performance, as compared to internal focus conditions.

A similar observation on artistic creativity has been made by Nachmanovitch (1990), from a Zen-based philosophical perspective. He noted that when the artist's attention is fully engaged in the creative experience, this is the time when "sense and environment unite" where "attention and intention fuse" (p. 51). In his view, the creative process is inherently a naturally self-organizing activity from which patterns emerge organically, constantly shifting and changing as they interact with the environment, allowing one to learn from mistakes.

In a similar way, Cohen (2005, in press) proposed a way of harnessing the notion of causality as a useful way of helping performers maintain the state of "being on." This involves creating effects of a perceived cause in the process of practice that can help break down the barriers to being on. According to Cohen, the process of practice involves a series of sketches, which are constantly being tested, re-sketched, as well as going through multiple digressions, because creativity in performance involves creative play, and interplay of the materials, instead of merely playing the notes from the printed page. This process of sketching occurs naturally and has been found to be very effective in helping the performer to dislodge from blocks, independently of dealing with the original sources or causes of the blocking.

Role of Practice and Training

Much of the research literature on musical performance has been written by investigators who are not themselves artists who perform regularly in formal situations (on the concert stage before a large audience). For such researchers, it appears from

reading this literature that musical performance has often been treated as a high-level skill that can be acquired through hours of repeated practice. For instance, the study by Sloboda et al. (1996) indicated that expert pianists practice about ten times more than amateurs. Sloboda's data indicate that by the beginning of one's performance career, expert pianists have accumulated approximately 10,000 hours of practice. Similarly, Ericsson, Krampe and Tesch-Romer (1993) posited that the level of expertise in any domain is directly proportional to the amount of effortful formal practice of the skill undertaken. Their study on student and professional instrumental players suggest that the highest achievers consistently spend twice as much time in their daily practice than moderate achievers during the initial phases of their musical development.

Although researchers may infer that greater number of practice hours suggest a high level of involvement from the individual, apart from interesting figures, tallying up the number of practice hours does not reveal very much about the quality of the learning and practice process — e.g., the modes of practicing subjects underwent, the subjective experiences during practice that can either make or break a performance, how these relate to the musical and performance contexts, and how these evolve over time. In studying blocks in a domain that is as intuitively expressive and non-verbal as music performance, it becomes necessary for researchers to integrate the dynamic and subjective experiences of the performer into a "performance relevant" context.

In contrast to the findings of Sloboda et al. (1996) and Ericsson, Krampe and Tesch-Romer's (1993), a study by Williamon and Valentine (2000) indicates that time spent in practicing is a poor predictor of performance quality, and that the content of practice does make a difference. Williamon and Valentine noted that pianists employing

longer practice segments in the middle stages of preparation produced better technical, musical and communicative performances, regardless of skill level.

Their interpretation of the results was that, in the middle stages of preparation, participants are able to largely overcome note-to-note difficulties and they are in the process of developing their own interpretations. According to their results, longer practice segments in the middle stage indicated that the participant had successfully acquired all the notes and had overcome technical difficulties of the piece, and hence was spending time developing and refining musical interpretation.

Albeit instructive, even in this study, the nuances of pianists' direct experiences during their practice process were again excluded, such as how they repeated the musical segments, the intentions behind why and how they varied a particular segment, how judgments were made as to what aspects were to be modified and what was to be preserved, when did the pianists feel that they were ready to proceed to the next segment, as well as other aspects regarding aesthetic and sensory feedback. Again, Williamon and Valentine did not elaborate upon the quality of the performers' interpretations. These might have provided useful clues to how some performers may be blocked, and might even have indicated whether and why extra practice hours might even be counterproductive.

In terms of qualitative research on musical practice and memory in formal performance, perhaps the only study which remotely touches on the first-hand experience of the performer (a pianist) during practice is by Chaffin and Imreh (1996). In this study, Imreh videotaped her learning process of the third movement of J.S. Bach's Italian Concerto and commented on the problems she encountered as she was practicing. With

long hours of practice, efficient use of practice time by focusing on solving problems that emerged, as well as the effective use of practice strategies, Imreh achieved a fluid musical performance from memory. The music was then recalled two years later in a written format, where Imreh dictated the first page of the musical text from memory. (Of course, the fact that Imreh could write the musical score from memory does not necessarily indicate how well she performed the piece.)

According to Imreh's verbal accounts of her early stages of practice, she identified and memorized the formal structures of the piece such as phrasing and harmonic progression, whereas at later stages of practice she practiced by making use of the cognitive organization established at earlier stages of practice to retrieve memory cues that facilitated her playing. Chaffin and Imreh's (1996) results also suggests that the practice and recall structures were organized by the formal structure of the music. For instance, practice segments were more likely to start and stop at boundaries of the formal musical structure than at other places and recall was better for the beginnings of sections than for later portions.

It should be noted however, that the study by Chaffin and Imreh (1996) only addressed the experience of one individual (the researcher/ pianist). Whether the researcher's observations can be generalized to other performing musicians would require further study. Besides, the results are confined to descriptive accounts of metacognitive strategies (of learning and practice) employed by Imreh during her video-recorded sessions. Little is known about the specific cognitive processes underlying her approach and implications of such on subsequent performance.

In terms of transfer of practice, Christina and Bjork (1991) and Schmidt and Bjork

(1992) argue that training programs are often less effective than they could be. The reason is that coaches are often confused by what are effective conditions of practice. Conditions that enhance performance during training have often been assumed to enhance long term post-training performance, but in fact, this may not be true. The studies by Bjork and his colleagues indicate that manipulations that increase the rate of acquisition during training can fail to support long-term post-training performance, whereas other manipulations that appear to introduce difficulties for the learner during training can enhance post-training performance.

On this account, it is interesting to note that, in certain acting techniques (e.g., Grotowski, 1968) and in musical practice (e.g., Cohen, 1996), the introduction of difficulties is considered normal, i.e. the process is equated with struggle, a struggle through which the performing artist is obliged to think and create a workable alternative, reminiscent of Gibson's (1979) theory of affordances in perception. The connection here to performance development was suggested by Segalowitz in relation to music performance (Segalowitz & Abrahamowicz, 1992) and later extended to second language skills (Segalowitz, 1997). The term affordance was coined by Gibson (1979) to describe the reciprocal relationship between an animal and its environment. An affordance is a resource or support that the environment offers an individual; the individual in turn must possess the capabilities to perceive it and to use it. "The affordances of the environment are what it offers animals, what it provides or furnishes, for good or ill" (Gibson, 1979, p. 153). One can apply this idea to performance ability development. When confronted with a difficult situation, the artist is obliged to search for the hidden possibilities "afforded" by the specific situation and, more generally, according to Segalowitz, the experienced

artist will have superior knowledge of and ability to handle the affordances that are specifically associated with the performing environment. In this sense, the high level artist (or second language speaker, or chess player, etc.,) can be thought of as occupying a special performance niche. By testing the affordances provided by the performance environment in a variety of contexts, the artist gradually arrives at a creative synthesis that makes possible a higher level of performance.

In a similar vein, Bjork, et al. (1991, 1992) argued that there is a need to introduce difficulties for the learner in the practice phase in order to enhance post-training performance (particularly transfer of training to novel but related tasks). Battig (1979) also finds value in introducing *contextual interference* to the learning situation by making the practice environment more variable or unpredictable. Although this creates temporary interference for the learner, subsequent performance is enhanced as the learner has learned to develop strategies in dealing with possible contingencies.

Psychologists interested in the nature of practice have suggested that difficulties can be introduced to the learner in the practice phase in a number of ways. This could be accomplished by providing contextual interference, varying conditions of practice, or by distributing practice (instead of mass practice). For instance, studies on contextual interference (see Shea & Morgan, 1979; Hall, Domingues & Cavazons, 1992) demonstrated that distributing practice in a random fashion, rather than grouping trials together by task type, impairs performance during training but enhances long-term performance. Similarly, varying the environmental contexts in the practice phase also enhances long-term retention (Smith, Glenberg & Bjork, 1978; Smith & Rothkopf, 1984).

Psychology and Neuropsychology

This section reviews four areas where there have recently been interesting developments in the psychology and neuropsychology of complex human performance, areas with potential relevance to the problem of musical performance blocks. These are performance doubt and anxiety, thought suppression, situated and embodied cognition, multi-sensory aesthetic experiences, and the embodiment of emotions.

(a) Performance Doubt and Anxieties

According to some researchers, performers are affected by the "general stresses related to having to perform under conditions of high adrenalin flow, anxiety, fatigue, social pressure, and financial insecurity" (Lehrer, Goldman, & Strommen, 1990, p. 48). In a survey of 56 orchestras, James (1998) found that 70% of musicians indicated that they experienced anxiety severe enough to interfere with their performance, with 16% experiencing this level of anxiety more than once a week. In a comparative study of different types of performers, Marchant-Haycox & Wilson (1992) found performing musicians to be most affected by anxiety (47%), followed by singers (38%), dancers (35%), and actors (33%).

Along similar lines, musical prodigies whose lives are shaped and constrained by adults surrounding them may also develop anxieties or trauma that can later be manifested in their musical careers. Martha Argerich, for instance, despite her international reputation, was incapable of maintaining a state of psychological equilibrium until she was about twenty-five years old (Kenneson, 1998). As piano performance is concerned, the late Vladimir Horowitz (Friesen, 1999), Arthur Rubinstein

and celebrated tenor Luciano Pavarotti all admitted to be afflicted by extreme nervousness prior to their concert performances (Steptoe, 2001). Unless the mental health of the musical prodigy is tended to empathetically and lovingly, detrimental consequences may ensue.

Some researchers consider performance anxiety as a form of social phobia (Wilson & Roland, 2002), since it represents a fear of negative evaluation by others. Others, such as Bourne (1995) relate it to a form of perfectionism, as one harbors unrealistic expectations of one's abilities, where one becomes hypercritical of one's performance and is overly concerned with minor flaws, and tends to focus on the negative rather than positive aspects of the performance. It may be a naïve simplification to consider performance anxiety as a psychological disposition to nervousness. Thus it can be argued that by understanding its specific causes, and modes of manifestation, of which some may be biological, cognitive, aesthetic, or musical, effective solutions can be found to help performers overcome these blocks.

(b) Thought Suppression

In a state of performance anxiety, the artist may resort to thought suppression in order to dispel a potential block. The strategy of thought suppression has been employed widely by musicians of all levels either as a consequence of admonishments from coaches or as self-reminders. For instance, just before a performance, one might feel nervous, so one might attempt to calm down through self-talk by saying, "Don't be nervous. You can do it." Unfortunately, the person employing such a strategy of mental control is seldom aware of its ironic consequences and using inappropriate strategies such

as through suppression may inadvertently bring about blocks. According to Wegner, Schneider, Carter and White (1987), thought suppression is at best ineffective, and at worst, a counter-productive strategy. As such, it is a questionable aid for enhancing performance (Neziroglu & Neuman, 1990; Stern, 1978; Wegner et al, 1987). Why then, is thought suppression so pervasive in most areas of pedagogy involving human performance that it has even become internalized in one's language to oneself?

In the study by Wegner et al. (1987), participants were asked to spend five minutes saying anything that came to mind. Afterwards, each subject was asked to continue, however, this time, not to think of a white bear. And if the thought of a white bear came up, the participant was to ring a bell and then go on. On average, participants rang the bell about 6 times within a five-minute period and mentioned white bear thoughts out loud several times as well.

The results indicated a "rebound effect", that is, participants who formerly had to suppress the thought of a white bear became unusually preoccupied with white bear thoughts. This high level of occurrence of white bear thoughts was unusual as compared to those who were simply asked to think of a white bear from the outset.

It is necessary to distinguish between the nature of the to-be-suppressed thoughts in a formal musical performance situation and that of the items used in Wegner's experiment. The experimental items were emotionally neutral, as in the case of a white bear (unless one had been previously attacked by a white polar bear). Yet, in musical performance, the to-be-avoided item is often emotionally charged[5], and bears some personal relevance. For example, in many cases, as solo musical performers (and

[5] In many cases, as the solo musical performer (and particularly so for less experienced ones) attempts to communicate an internally felt emotion to an audience, he/she might also be under some degree of influence by that emotion as well.

particularly so for less experienced ones) attempt to communicate an internally felt emotion to an audience, they might also be under some degree of influence by that emotion as well.

For these reasons, using suppression in the training of musical performance is more likely to generate blocks than help solve problems. In other words, the problems of thought suppression that Wegner studies in the laboratory with simple verbal stimuli are likely to pose even greater challenges to performing musicians during live, on-stage performances.

These intrusive thoughts may be of a broad spectrum, ranging from not being able to communicate one's musical intentions, concerns about a possible memory lapse on stage, worries about stumbling at technically challenging passages, to fear of getting a bad review from music critics. Furthermore, it is important to note that in a formal performance context, the performer is operating under a demanding cognitive load[6], which makes thought suppression even more difficult, hence rebound of the intrusive thought is more likely to occur. Indeed, except for the experienced seasoned performer, the task of performing a technically and musically demanding repertoire publicly in realtime from memory will consume much of the attentional resources of the performer, thus leaving little attentional capacity for thought suppression.

Finally, it is important again to emphasize that, a formal musical performance differs from a purely cognitive activity in that it is an artistically creative and expressive act. In particular, it involves simultaneous multi-sensory co-ordination of modalities at the service of musical intentions that often are not completely realized except in

[6] Except for the experienced seasoned performer, the task of performing a technically and musically demanding repertoire publicly in real-time from memory consumes much of the attentional resources of the performer, thus leaving little attentional capacity for thought suppression.

retrospect. André Gregory, an actor colleague of Growtoski, noted the importance of time needed for a creatively artistic endeavor to develop: rehearsing for a short period of time brings about a lot of possibilities and then the artist chooses the best one; whereas rehearsing for a long period of time brings about not only just the best choice but also the inevitable choice (Gregory, in Wangh, 2000).

(c) Situated and Embodied Cognition

Since the late 19th Century, William James (1890) recognized the influence of the body on our perception of experience. James argued that the body provides an immediate, tangible relationship to our perception, and as a consequence forms an important reference basis from which we make sense of our surroundings. Similarly, John Dewey (1934) and Merleau-Ponty (1945) recognized somatic experience to be the primal basis for humans to function in the physical world. Dewey (1934) remarked that it is exclusively through the senses that an individual can fully participate in his environment, and through continuous sensory interaction with one's surroundings, a meaningful experience is derived. Merleau-Ponty (1945) notes that the body and the senses form a collective entity which generates meanings, thus providing a framework for thoughts and understanding.

More recently, Varela, Thompson and Rosch (1991) argued that sensory and motor processes as fundamentally inseparable, mutually informative and structured so as to ground our conceptual systems. Meanwhile, cognitive scientists are also beginning to infer connections between the structure of mental processes and physical embodiment (Bergh, Eelen & Vrana, 1990; Clark, 1997; Lakoff & Johnson, 1999, Wilson, 2002). Damasio (1995), for example, sees the mind not just as "embrained" but embodied in the

fullest sense of the term. The result is a situated and embodied cognition paradigm that provides an alternative basis for understanding cognitive processes involved in all levels of human performance.

In presenting a long-term program for realizing the potential of body, mind, heart, and soul, Leonard and Murphy (1995) consider the body as a teacher. In the case of musical performance, addressing the problem of performance blocks entails an understanding of the body. According to Leonard and Murphy (1995), "There is a profound wisdom in the body, in the pulsing of blood, the rhythm of the breath, the tuning of the joints. Once we are aware of its subtle power, the body becomes a sensitive antenna for tuning into nature and other people." (p. 145).

The evidence that has been reported to date suggest that the representation of information in complex tasks, especially those that involve cognitions, emotions and movement as in musical performance, is going to involve more than simple cerebral "data bases" of facts about the world; the whole individual is going to be represented in some way and how that representation comes about and affects subsequent action will be important to understand. In effect - a situated and embodied cognition paradigm provides an alternative to the conventional computer metaphor for understanding cognitive processes involved in all levels of human performance.

The body has always been of paramount importance to theories and practices of performance in disciplines such as dance, acting, athletics and martial arts. The body and its relationship to its performance context and environment, however, have seldom been examined in any depth in areas of music performance and mainstream pedagogy. In a study named "Feeling Sound", Sloboda (2003) attempts to evaluate how pedagogic

intervention at a physical level may enhance performance expressivity in conservatory level pianists, based on the assumption that musical expression can be facilitated by increasing the performer's awareness of the bodily impact of music. Although Sloboda's preliminary findings show significant advantages in this form pedagogical intervention, the actual biomechanics of how the body relates and responds to specific expressively oriented directives have not been dealt with.

In musicology, affect has often been discussed in terms of the role it plays in composition, analysis, or understanding a piece of music. Important issues include how affect enters into the process and experience of musical performance, and how it alters bodily states and the physical organization of the performer to either facilitate or interfere with formal musical performance. However, these issues have hardly been discussed in any depth. The role played by the body for the most part, has only been addressed under generalized pedagogical assumptions like weight technique, force, relaxation, or physical positions at the instrument (Breithopt, 1909; Ching, 1934; Deppe, 1890; Lister-Sink & Batson, 1996; Matthay, 1903; Ortmann, 1925, 1927; Taubman, 1993). These approaches, however, do not address the specific needs and differences of each unique individual in a performance context.

(d) Multi-sensory Aesthetic Experiences

As people explore their environments with their bodies and senses, they also learn to correlate multi-sensory inputs with experiences (Iyer, 2002). As Robert Zatorre, a neuroscientist at the Montreal Neurological Institute in Canada, noted "listening to and producing music involves a tantalizing mix of practically every human cognitive function" (p. 312). In many instances of non-verbal communication (Kodish, 1998), the

performer senses the relationship with the dynamic performance environment and responds to it accordingly without being able to verbalize them. Although subtle, these non-verbal aspects can be effectively communicated in terms of specific cues between musicians as well as to the audience through musical performance (Gordy, 1997).

Shove and Repp (1995) maintain that an understanding of the complexities involved in the interactions underlying movement is crucial to human functioning. Focusing more specifically on sensorimotor interactions, Todd (1999) asserts that spatial temporal information derived from sensory input is matched to the motor image of the body via an elaborate pathway of feedback mechanisms called the "sensorimotor loop" (Todd, 1999). In turn, sensorimotor interactions are established, thereby enabling individuals to determine their actions under specific situations (Iyer, 2002).

Studies of metrical timing further indicate that individuals spontaneously tap within a narrow range varying between 300 to 800 milliseconds (Fraisse, 1974; Drake & Botte, 1993). This phenomenon apparently originates from fundamental physical properties of the human body, and demonstrates a strong correlation between organically rhythmic pulses, including vital signs and natural body movements, such as breathing, heart beat, walking, and dancing (Clynes & Nettheim, 1982; Davidson, 1993; Fraisse, 1974; Gabrielsson, 1988; ; Krumhansl and Schenk, 1997; Parncutt, 1997; Shove and Repp, 1995; Todd, 1992; Truslit, 1938). This apparent link between basic human physiological functions and a timed impulse, is perhaps key to revealing the mysterious connection between musical perception, performance and related blocks.

In an examination of fundamental issues on how the brain is organized, Cytowic (1993) revived the idea of synaesthesia, a neurological condition where sensations are

involuntarily combined. In individuals with synaesthesia, stimuli normally primarily associated with one sensory modality produce sensations in one or more additional modalities. For instance, Cytowic observed that taste can be co-experienced as discrete physical shapes. Moreover, neurologist Ramachandran (1998) reported brain imaging scans of a blind synaesthete revealing that there was activity in the visual cortex when the individual listened to music. Synaesthesia reminds us that what we perceive is not just a simple processing of stimuli from one or another of our senses (Cowen, 2005).

According to Cytowic (1993), synaesthesia is a normal brain process found in a minority of individuals, and occurs when mental processes advance prematurely to consciousness. Cytowic argues that we are all synaesthetic in some ways, just that the majority of us do not have access to it. Although research on the phenomenon of synaesthesia and how it may be related to musical performance blocks (and unblocking) is still in its infancy, examining the diverse experiences of synaesthesia may provide researchers a glimpse into how the brain operates.

In understanding musical performance blocks, researchers may also explore what philosophers call "qualia," or the paradoxical existence of a private, subjective sensation that seems to belie objective, scientific observation (Ramachandran, 1998). The term qualia suggests the raw feel of sensations like the subjective quality of pain. Qualia start as temporary perceptions but then, in time, harden in an individual's memory into fixed, subjective beliefs. Ramachandran cites the phenomenon of amputees reporting that they can feel their lost limbs, raise and lower them, and even move objects around with them. For example, an athlete who lost an arm grimaced in pain when a doctor wrenched a coffee cup from his grasp. Yet the athlete was only "holding" the cup with his missing

hand. Similarly, Ramachandran reports a school teacher who suffered a stroke that immobilized the left side of her body and insisted that her left arm was not paralyzed. Ramachandran contends that "[t]hese patients ... are our guides into the inner workings of the human brain--yours and mine. Far from being curiosities, these syndromes illustrate fundamental principles of how the normal human mind and brain work, shedding light on the nature of body image, language, laughter, dreams, depression and other hallmarks of human nature" (p. 3). Accordingly, this contention directly addresses the problem of musical performance blocks. Researchers as well as musical practitioners need to explore the experience of qualia to understand how performers experience blocks and to use this understanding as a basis for coaching and developing pedagogical methodologies.

In "Body Awareness as Healing Therapy: The Case of Nora", Moshe Feldenkrais (1977) presents a case study of an intelligent and well-educated woman who, in her early sixties, suffered a severe and debilitating stroke and lost her neuromuscular coordination, including the ability to read, write, and walk. He uses rational and intuitive approaches to help Nora relearn basic motor skills. Performance block researchers have a great deal to learn and discover in Feldenkrais' (1977) text: "The most important kind of learning is that in which quantity becomes a new quality...Often we even don't notice this kind of learning...As if without purpose...and suddenly a new form of activity emerges as if out of nowhere...Repeating and learning by rote, preaching, reward and punishment are of no use..." (p. 82). In attempting to come up with ingredients that were needed to help Nora gain her functions back, Feldenkrais explored all the body functions and believed that structure and function are tightly connected.

Taken together, the findings discussed above may provide a point of departure for researchers to examine musical performance as an activity that goes beyond pure cortical functions, but perhaps to consider the possibility that complex human performance may be intimately connected to cognitive processes that involve complex interactions between the brain and the body - where emotion, intuition, multiple senses, and other ambiguous feelings of knowing all play a significant role.

(e) The Embodiment of Emotions

In most literatures of musical performance, the performer has been granted the status of objective interpreter, adopting a passive and impersonal role of deciphering the printed notation. It should be noted, however, that the musical text only reveals fragments of the composer's intentions, where limited dimensions of the composer's musical intentions are captured on paper - more precisely, the notation of pitch, and to a limited extent the relative duration of the notes, rhythm, dynamics, and expression. It is assumed that when music is notated in writing, the composer's musical intentions can be accurately frozen in time. It is also this belief that legitimizes the status of the printed score as a sacrosanct document. The apparent permanence of the written text gives it authority over the musical performance (as it was not feasible to record sounds in the distant past).

As a consequence, musical performances have often been mistakenly treated as purist reproductions of the text, offering a literal translation rather than a personalized interpretation. Although this perspective may still be sustained in certain areas of musicological scholarship, it seriously risks rejecting critical aspects of the human condition involved in performance when applied to the study of formal musical

performance. For instance, questions such as: how is the experience created? And what is involved in the experience? The reality of the stage reflects that a performance involves more than an active and creative "re-construction" of the musical text.

In the course of deciphering the text, the performer takes on the role of the translator, injecting feelings, emotions, expressive gestures, and subjective biases. Although these subjective relationships are not easily quantifiable, they are perceptibly significant in contributing to the performer's unique musical signature. This translation process involves the generation of movements synchronized with expressive emotions and character based on cues implied within the text. When this recreated experience is successfully delivered as a performance, it can be simultaneously communicated to the audience as an illusion much akin to the experience of being touched by the words of an actor, or mesmerized by the sleight of hand of the magician.

With regard to the musical text, blocks can emerge when the performer tries too hard to conform to the text. The performer may be paralyzed by information overload, when questions such as, "Am I doing it right? Am I sensing it right? Have I left out anything?" set in, and blocks the performing experience altogether. Under this situation, the performer is in a state of conflict, torn between the intuitive understanding of the art, and faithfully abiding to the stringent censorship of musical notation. Following the bioaesthetic perspective (see the next chapter), it will be proposed in this thesis that unblocking in this context requires aesthetic reconciliation between musical understanding, aesthetic interpretation, and liberation from the confines of the printed notation.

In the recent years, there has been considerable agreement among artists and scientists on the sensorimotor / affective connection. For instance, Lazarus (1993), in a comprehensive study of emotion and performance, notes that people learn to correlate their emotions to the environment, which they explore with their bodies and senses. These experiences are often non-verbal, and our emotions often reflect this ephemeral mode of knowing (Lazarus & Smith, 1988). Lazarus (1993) argues that despite prevailing notions that emotions and reason are antithetical functions and humans are inherently irrational, emotions have an implacable logic.

Lazarus (1994) also argues that emotion plays a central role in a complex, patterned, organic reaction to daily functioning, survival and achievement. In this view, emotions cannot be divorced from cognitive and biological functions, which express the intimate, personal meaning of an individual's experience. For instance, in observing the role played by emotions in performance interference, Lazarus (1994) notes that when an overly self-confident athlete believes herself to be ahead in a high-stakes competition, she is likely to be in a highly positive cognitive-emotional state, where she may let up a bit and therefore lose. Hence, being ahead can simultaneously be a positive and negative condition. Lazarus continues to posit that conditions between the environment and the individual are relational, which can ultimately be perceived and brought to bear in the performance by the performer. Lazarus also notes that, in the course of evolution, the role of emotions was to promote adaptation rather than to impair it.

The role of emotion towards facilitating the performer in adapting to adverse conditions is exemplified by two of the greatest virtuoso pianists of our time – Argerich and Fialkowska who are both afflicted with cancer. Despite Argerich's battle with

melanoma which had spread to the lungs and lymph nodes, her intense passion towards music led her to resume her performance career once her cancer was in remission (Westpahl, 2001). Janina Fialkowska, developed a large and extremely aggressive tumor around a muscle in her left arm, which had to be surgically removed. After surgery, Fialkowska lost the use of the left hand. In 2003, Fialkowska underwent another surgical procedure, where doctors transferred a muscle from her torso to replace the lost muscle in her arm. At first, Fialkowska was unable to raise her left arm or even move it laterally away from her body. However, after a long and arduous process, she trained herself to regain control of her left arm, relearned how to play the piano with her newly transplanted muscle, and resumed her two-handed performance career (Berstein, 2004).

Argerich and Fialkowska's cases not only bear testimony to their strength of character, stamina and commitment; they also provide evidence that emotions can play a pivotal role in turning apparent obstacles to creative advantage – where blocks can be reframed as opportunities for new challenges rather than as deterrents. Although by and large the emotional processes have been successful in facilitating adaptation, there are instances when the emotional processes go wrong and become maladaptive. In the study of the role of emotion played in performance interferences, Spence and Spence (1966) argued that anxiety is associated with feelings of inadequacy, helplessness and concerns about the consequences of negative outcomes.

As the level of threat is perceived to increase, it elicits more and more internal distractions, preventing the performer from concentrating on the task at hand. These interferences can be diverse - these include self-doubt, prediction of failure, a desire to

flee from the situation, procrastination, and other maladaptive behaviors which can turn into serious performance blocks.

Cohen (personal communication, 2004) surmises that the role of feelings, emotions and moods are important affective states that influence human cognition in the performance of musical works, which involve the structuring of performance articulation, dynamics, rhythm, tonal variations and other expressive devices, involve a complex motor /sensory phenomenon which is organized and communicated through timed expressive actions. Other indispensable characteristics in both musical perception and performance have been noted by Frey (1985), Williams and Morris (1996), Juslin (2001) and Zatorre (2005) who argue that music elicits much stronger emotions than other art forms since it provides a connection to the most primitive feelings and experiences. From a slightly different perspective, Manfred Clynes (1973, 1978) demonstrates how emotions are expressed and communicated through touch. According to Clynes, communication of specific emotions is based upon biologically pre-programmed spatiotemporal forms, which he calls "essentic forms." Clynes' theory of sentics relates emotions such as love, hate, anger, grief and joy to characteristic patterns of touch, and visually represented these patterns by means of a sentograph. The result of Clynes' seminal research is controversial because attempts to replicate it have failed (Repp, 1998). Thus the tangible connection between embodied emotions (previously regarded as ambiguous and unquantifiable) and the qualitative character of tactile movements (the physical embodiment of an emotional response) remains a question.

Non-verbal communications such as touch, facial and gestural embodiment of emotions as communicated through facial expressions and body gestures has been

exemplified in previous studies (e.g., Ekman & Frieson, 1978). By developing the Facial Action Coding System (FACS), Ekman (1992) was able to methodologically measure spontaneous facial expressions, and relate these to various emotions experienced by the individual, and subsequently able to classify various emotions through facial expressions. Ekman's ground-breaking research also indicates how the face reveals internal emotional states, such as joy, sorrow, fear, disapproval, deception, psychopathology, and aspects of physical health. Overall, Ekman's findings on the emotional impact on facial expression may provide musical researchers with a glimpse into how the expression of an emotional experience can affect other bodily movements and gestures, which can have the capacity to either block or enhance a musical performance.

Blocks have the potential to arise from the way an emotional experience affects other bodily movements in the following way. Under situations of negative or stressful emotions (e.g. fear), adrenaline surges in the bloodstream, heart rate and respiration rate increase, breathing become more shallow, palms sweat, muscles become taut, the entire body may tighten or stiffen in preparation for fight or flight. However, when one is not involved in a physical survival challenge, where one can either fight or flee, as in the case of a solo pianist having to perform a gargantuan work on stage, one is left with no option, but to suppress fear. When stress is suppressed or denied, the tension is likely to be turned inwardly, thereby causing paralysis or "freezing". In a state of paralysis, the performer has little chances of maintaining fine motor control, let alone maintaining a fine sense of timing, balance and musical expression.

A major problem, however, with the non-verbal communication of emotion through movement is the difficulty of translating or communicating the intended message

to someone whose own experience places them outside the scope of communication being used. For example, in a *wayang golek*[7] performance or in a Peking Opera, an outsider to the Balinese and Chinese culture, respectively, may find it difficult to understand what the movements (for example, the gaze or the tilting of the head) are conveying. Also, in a piano recital, the uninitiated audience may wonder about the performer's movements.

As has been noted throughout this chapter, the non-verbal communication of emotion through movement is a major element in musical expression. One dimension to examine in musical performance blocks is the claim that body gestures are a threat to musical aesthetics. Despite the consensus that body movements during a musical performance adds to the overall aesthetic experience, there are critics who view physical or bodily gestures as a corruption of musical expression. According to Moreno (1999), these critics view the body as the locus of ultimate exteriority and as a threat for contemplation of a purely musical aesthetics.

It may be that many critics' reaction against body movements in a musical performance is based upon a view that considers body movement as encoding a kind of visual semantics. This is like saying that the body "means" through movement what the music might be trying to express in sound (Shove & Repp, 1995). According to Moreno's (1999) epistemological view "the aural presence of the music establishes a relation to the body, and, reciprocally, the visual presence of the body constitutes a representation of the fundamental materiality of music, its acoustical presence" (p.88). Body gestures are

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[7] Wayang Golek is a traditional form of puppetry from West Java. The puppets are made from wood, decorated with colorful costumes, and have moveable arms and heads. In a performance, the puppeteer sits on the floor behind a low table which serves as the "stage". The performances are accompanied by gamelan music, with speech and singing to tell the story.

undoubtedly part of the music, so much so that one could describe these gestures not as a translation or mechanisms in service of music, or an addition to the music, but the music itself. The aesthetic produced by the music and the body movement is the overall aesthetic of the musical performance.

Pedagogical Methodologies

It is also instructive to review the literatures on piano technique and pedagogy and to examine how certain pedagogical assumptions and perspectives (1) may have failed to address the notion of blocks in the performer, (2) may inadvertently lead to the development of blocks in the learner through inappropriate pedagogical approaches, as well as (3) illustrate early pedagogical observations and attempts in addressing issues relating to musical performance blocks from a historical and pedagogical perspective.

Culture, times, and personal beliefs can influence pedagogical philosophies adopted, which subsequently determine the specific teaching styles, attitudes, and approaches taken. Methodologies may also vary significantly from one teacher to the next as a result of different pedagogical assumptions, cultural background, training, experiences and specific physical attributes of the teacher himself. These issues directly relate to why certain emphasis is placed on specific contents, what attributes are being valued, as well as the process of how teaching is implemented, what kinds of feedback are provided, as well as how these are conveyed to the student. A comprehensive understanding of these issues is, therefore, pertinent to our study of performance blocks. For the purposes of this thesis, the term "didactogenic induced blocks" will refer to any

blocks developed either as a direct or indirect consequence of inappropriate teaching methodologies.

In the discipline of musicology on both formal and informal performance, we find a compendium of works by musical pedagogues spanning the 18th to 20th century, including C.P.E. Bach (1753-1762), Frederic Kalkbrenner (1785-1849), Franz Liszt (1811- 1886), Ehrlich (1822-1899), Tobias Matthay (1905, 1908, 1926), Rudolph Breithaupt (1909), Otto Ortmann (1925), Alfred Cortot (1928), James Ching (1946), and many other notable pedagogues. A survey of the above historical methodologies indicates that the approaches taken are highly reductive.

For instance, C.P.E. Bach's "Essay on the True Art of Playing Keyboard Instruments," (c.1753-1762) focuses primarily on the style and interpretation of 18th century keyboard music and includes aesthetic precepts and musical views, as well as detailed conventions of the Classical period, such as fingering, ornamentation, harmony, and accompaniment. On the other hand, Frederic Kalkbrenner (1785-1849), with the intent of building stamina and technical strength, insisted on a technique that incorporated a motionless-arms, fingers-only approach. Contrary to many of his contemporaries, Franz Liszt (1811-1886) focused more on the musical aspects rather than exclusively on the mechanics of technique. For instance, he introduced practice techniques by applying them to passages in a musical work, thereby giving it a musical context. In so doing, technical mastery is cultivated in a manner that is connected to the reality of performance[8].

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[8] Hungarian chamber violinist Sándor Végh (1912-1997) concluded "Do not confuse technique with mechanique. Mechanique is the way to play the notes. Technique is the way to make the music". In the same spirit, Leopold Godowsky set up musical challenges for himself by creating highly contrapuntal studies that are based upon Frederick Chopin's etudes. He wrote a series of studies after the Etudes of

In the early 20th century, pedagogical methodologies emphasized technical mechanics (Deppe, 1890; Leschetizsky, 1902 [in Bree]; Matthay, 1903; Breithaupt, 1909; Ortmann, 1925; Cortot, 1928; Ching, 1934), focusing on the physiological and technical aspects of piano playing. Since performance difficulties were understood as a reflection of problems in technical dexterity, methodologies that target on aspects of technical development are therefore developed as remedies for the resolution of such impediments.

Tobias Matthay (1903) developed Ludwig Deppe's (1880) concept of "arm weight" and relaxation into a piano method. In his "Relaxation exercises in the muscular discriminations required for touch, agility and expression in pianoforte playing" (1908), Matthay discussed at great lengths the physiological details and mechanics of physical control in piano playing, of which the most well known are his principles of weight transfer and forearm rotation techniques. It is important to mention, however, that Matthay's works are primarily intended for the training of amateur pianists.

Otto Ortmann (1929) negated Breithaupt and Matthay's ideas for compromising tone, articulation and speed, and embarked upon intensive research on the components of piano technique. Ortmann took a more scientific approach by conducting experiments with a variety of gauges and equipment to record data related to the physiological mechanics of piano performance. On a slightly different note, James Ching (1934), in his "Foundations of Piano Technique," attempted to rationalize Matthay's approach scientifically and on failing to do so, suggested that the real "answer" to all keyboard problems could be found in continuous hand and arm pressure rather than the mystique of

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Chopin, some of which were played with only the left hand, while others merged two etudes of Chopin to form one polyphonic study. In recent years, Marc-Andre Hamelin (1992) further extended the vistas of musical and technical virtuosity by composing and recording a Triple Etude, combining three Chopin etudes contrapuntally into a piece of phenomenal density and complexity.

weight and relaxation.

Albeit instructive, most of the technical approaches taken by pedagogues of the early twentieth century tend to mask unproven dogma with highly generalized directives, such as *how* certain technical passages should be performed, rather than relating technical passages to a specific musical context, tempo, expressive demand, as well as the individual differences in the experience of the performer. As a consequence, these techniques are taught in a way that is detached from a musical, personal, expressive or aesthetic context, which can become a potential contributor to blocks.

In the mid-twentieth century, however, a new direction in piano pedagogy begins to emerge with a gradual infusion of psychological and physiological concepts. Whiteside (1955) questioned the usefulness of teaching concepts such as "touch, arm weight, and rotation" and instead illustrated the importance of physiological coordination by using performances of superb athletes as an example. A decade later, Kochevitsky (1967) further expanded upon the intellectual component to piano technique, where he introduced the "psycho-technical" school of piano playing. He surmised that mental awareness of musical patterns plays a vital role for good piano technique.

With the emergence of somatic awareness principles such as the Feldenkrais method and Alexander technique, a number of recent methodologies have been developed by piano pedagogues with the aim of helping individuals who suffer from performance related injuries. For instance, Lister-Sink and Batson (1996) demonstrate injury-preventive piano technique by drawing on disciplines including the Alexander Technique, physical therapy and movement science. Lister-Sink asserts that piano

technique approached from a neuromuscular and biomechanical perspective[9] provides the most efficient and natural co-ordination of the whole body at the piano. This approach, however, faces the same problem as its predecessors, in that it assumes technique can be acquired independently and mastered without a musical context. This approach neither deals with the complexity of musical issues in relation to the subjective experiences of the body during performance, nor does it address the question of performance blocks that may emerge as a consequence of the psychological and musical demands in the context of a live performance as encountered by professional solo performers. Dorothy Taubman (1993), basing herself upon principles of Matthay and Breithaupt, attempted to alleviate the performer from physical blocks such as fatigue, pain and injury by focusing extensively on the physical components of piano technique, such as arm and hand movements, fingering, and leaps. Taubman, however, went further than Lister-Sink in that she related technique to musical interpretation.

In the final analysis, teachers of musical instruments have a tendency to rely on historical and aesthetic tradition - teachers and students are often proud of their artistic lineage[10], as this gives them a sense of belonging, in that they are descendents from a musical and pedagogical tradition. One of the common pedagogies as established by tradition is the common sense teaching, a type of teaching based on the teacher's own

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[9] The neuromuscular perspective is an extension of Ortmann's (1927) approach. In Ortmann's Physiological Mechanics of Piano Technique, he discusses the neural and circulatory systems. He concludes that repetition in piano practice is a necessary part of the learning process, for it transfers the neural impulses of a movement from the higher brain centers to the lower spinal reflect centers. Ortmann suggests that in some cases, technical difficulties may be traced to poor efficiency in musical response. (Uszler et al, 1991).

[10] Although culturally and musically important, identifying with a lineage carries with it the danger that almost anything goes in terms of pedagogy—as long as it can construed as part of a famous musician's artistic legacy (Persson, 2000).

experience, preferences, and learning style. This pedagogical approach tends to form the basis of a method that, when published, can spread widely among teachers at all levels, becoming unquestioned instructional canon, no matter what the student response is to this method[11]. However, pedagogical approaches premised upon adhering to a regimented training approach without consideration for evolving times and unique needs of the student can lead to major blocks.[12]

Historically, from the various schools of pianistic training and with the emergence of countless methodologies, we have a compendium of pedagogical approaches that purport to liberate the performer from their performance limitations. When we examine the details of the various methodologies, however, we find that pedagogical approaches to piano technique have evolved very little with time. After a century, Taubman's approach is still remarkably similar to that of Matthay's. In this instance, the question of creative and aesthetic variability (Korman, 1997), individual differences (Cooper, 2002), aspects of musical communication (Gordy, 1997), musical expression (Kivy, 1999), have seldom, if at all, been addressed in any artistically meaningful[13] manner.

So far, in piano pedagogy, there is no existing treatise that instructs teachers how

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[11] A former music conservatory student and now a psychiatrist specializing in performance art medicine, Gelber (1988) observed that "some of the well-known teachers [when I was a student] had the attitude that their approach was the only valid one. The student, who is searching for certainty, may come to believe there is only one path to musical enlightenment" (p. 11).

[12] Another problem resulting from the common sense methods is the fact that they are legitimized based on social, rather than on empirical, grounds. Although well-known musicians, whose legacies live on through specified methods, and the students who adhere to them, may well have had tremendous insight to share, their mistakes, prompted by minimal understanding of learning, development, individual differences, physiology, or social processes, become part of those legacies, as well (Persson, 2000).

[13] For these reasons, artist teachers from the times of Franz Liszt, Alfred Cortot to major contemporary performer/artist teachers including Russell Sherman, Anton Kuerti, Philip Cohen, and others unequivocally maintain that it is essential to work directly from the music. Stemming from a musically based perspective, one can then experiment and come up with personalized ways of handling the music, both in terms of technical and expressive content that are unique and creative.

to adapt to the wide range of individual differences and needs of students. However, it is well understood that adaptive approaches have been actively and successfully implemented by artist teachers throughout the centuries, including the likes of Dorothy Delay (Sand, 2000). Coming up with a flexible and adaptive approach is not an easy task. It requires a specific attitude, a mind set and a personality.

Attitudes on Blocks

It is also useful to examine the attitudes adopted by outstanding individuals in both arts and the sciences in order to understand how they managed to overcome blocks such as consistent mistakes, failures and other apparently insurmountable obstacles. This may offer researchers a better glimpse into the mindset behind attempts in unblocking of influential artists and scientists.

The life of a concert performer is often confronted with contradictions and paradoxes. These contradictions may be perceived or apparent. However, if not clarified and dealt with in an appropriate manner that is consistent with the personal sense and musical ideals of the performer, this may lead to internal conflicts and uncertainties, thereby causing problems even for veteran concert artists. For instance, in an interview, Martha Argerich spoke of her "contradictory type of relationship" to the piano (Tommasini, 2000). In the same breath, Argerich also described experiencing a crisis of confidence, despite her phenomenal performance abilities.

Artistic integrity, passion, and courage among individuals also provide insights to blocks. An examination of Albert Einstein's attitude in approaching his problems points to his "moral clarity" and integrity towards his work (Smolin, 2004). Einstein's interest

did not lie in earning recognition, wealth or fame, rather what was important for him was his passion for his quest. Similarly, the only guiding force behind the legendary conductor Carlos Kleiber, was his passion for music, and he was neither motivated by fame nor fortune (Gutierrez, 2005; Rhein, 1983). In a similar vein, for reasons of preserving her artistic integrity, Martha Argerich, often cancels her concerts whenever she feels that she is not ready to deliver a performance that would do justice to the music (Church, 2001). On the other hand, Janina Fialkowska demonstrates an exception level of artistic integrity and performance courage through focusing on the music rather than upon herself, despite the malignant tumor growing around the muscle on her upper left arm. Fialkowska's ability to play again was probably a result of her positive attitude, which helped to turn her apparent misfortune into creative advantage.

From these examples, it is evident that an integrity towards one's art stems from a deep level of commitment, courage and passion towards the art. There is a deep sense of conviction, where one believes that one has a very important and unique message to convey. Artistic integrity is not confined to the genius - but there are many individuals who carry this strong message and live by it. This reveals a very specific mindset, which may be harnessed to facilitate unblocking.

Conclusion

This chapter has reviewed literature pertaining to blocks in performance disciplines aside from music, such as theater and dance and found that, unfortunately, the thinking expressed in theater and dance studies has yet to enter the mainstream of music. This chapter has also tackled the role of psychology and neuro-psychology in understanding musical performance blocks. Specifically, performance doubt and anxiety,

the role of practice, transfer of practice, training and performance, thought suppression, situated and embodied cognition, multi-sensory aesthetic experience, and the embodiment of emotions, in musical performance are discussed. This chapter has laid down important psychological and neurological insights that might aid researchers in their pursuit of probing what lies beneath the tip of an iceberg, that is the performance block.

From the literature review above, we find the majority of the psychological studies on musical performance deal with isolated aspects of musical performance which may not necessarily be relevant to the creative and artistic performing experience. Furthermore, we find virtually no study that focuses on or deals with difficulties facing the performing artist in a "live", formal musical performance context. However, as will emerge in the next chapter, a bio-aesthetic approach raises perspectives on musical performance blocks that have largely not been addressed by other approaches and for this reason a review of the bio-aesthetic approach will prove very instructive.

To this day, it is difficult to find any serious examination of the demands upon the performer involved in the organization and execution of even the simplest piece of music. The reality is that musical performance is an advanced, highly complex and demanding task, which involves the performer's synergistic integration of the totality of the her physical senses in conjunction with her cognitive resources, perceptual and sensory awareness, aesthetic judgment and emotional expressivity under a dynamically variable performance environment under a formal performance context. For these reasons, the notion of musical performance blocks still remains as terra nova for researchers, where methods of study in this area are yet to be developed and conducted.

The literature survey above also demonstrates how existing assumptions can determine the research direction, and even render a research methodology impervious to understanding the subjective reality of the performing artist. This prompts researchers to pay attention to important areas that have often been overlooked or omitted in these studies, namely, the subjective experience of the performer; processes that may potentially lead to performance blocks; and what a liberated, creative practice and performing experience "feels" like; and how that can be achieved and consistently maintained. An awareness of this oversight may inspire researchers to become more daring and receptive towards unconventional perspectives and creative experimentation in an attempt to figure out what works, what does not and why.

Finally, although the selected pedagogical methodologies discussed are ergonomically sensitive to the performer's body in terms of physical integration than their counterparts, it could be argued that they still tend to view performance problems in terms of a mechanistic context which does not lend itself to the performing experience as a totality. For example, they appear to consider fixed positions as an all-purpose solution. They still do not realistically address the pattern of expressive details of a "live" performing experience – details that if not effectively integrated could contribute to a block that could elude detection.

Given that blocks may inadvertently be introduced as a consequence of inappropriate pedagogical approaches, it is clear how important it is for pedagogues to critically re-examine their approaches. Blocks that emerge as a consequence of ineffective teaching approaches and methodologies have seldom been examined or brought to attention, as it is generally accepted that failure is an indication of personal

limitations of the student, rather than a reflection of an ineffective pedagogical approach. In this light, it is hoped that this thesis, and in particular the bio-aesthetic approach covered in the next chapter, will prove helpful in developing interventions.

The following chapter will discuss in detail the themes of the bioaesthetics approach to musical performance as suggested by Cohen (2005; in press).

Chapter 3: Bio-aesthetic Approach to Musical Performance (BAMP)

Introduction

As indicated in the previous chapter, the context of a "live" performance poses unique demands upon the solo performer. These demands challenge the performer's ability to produce a coherent musical experience[14] with a degree of consistency from performance to performance over time. The most insidious consequence – for whatever reason – is the establishment of performance related blocks.

This chapter will address the issue by arguing for a comprehensive research approach (BAMP) capable of identifying the conditions and processes within the performer that can lead to chronic failure in executing his or her musical intentions.

In Chapter 1, the underlying themes[15] of the BAMP rationale such as expressively directed timing, homeokinesis, cross modal synchronization (CMS), metaphoric imperative, vocabulary, delegation to an external / embodied and in particular paradoxical causality and a sketch/test and digress model of verification were briefly discussed in relation to musical performance blocks. In Chapter 2, the review of the general literature on performance revealed an absence of approaches to the issues raised by a bio-aesthetic perspective.

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[14] A coherent musical performance is generated and guided by the bio-aesthetic synchronization, meaning, intention and response are indivisible without anticipation or reflection while the music is in motion (Wilson, 2002, in Cohen, 2005, submitted).

[15] As a matter of convenience, these eight major underlying themes of the BAMP rationale will be referred to as the "eight central underlying themes" throughout this thesis.

This chapter, therefore, examines in detail and contrasts with literatures in psychology and musical performance the issues that arise from the bio-aesthetic approach to musical performance and to blocks in particular. Much of the content regarding BAMP is derived from participation in classes, performance seminars and interviews with Cohen, "hands on" research (including three-way critical explorations with students under observation with Cohen), television documentaries of the Leonardo Project (1994), audio-visual recordings and video exploratory research conducted by Cohen from 1989 to 2005. The goal is to lay out the assumptions and principles underlying the bio-aesthetic approach so that it can later be evaluated in terms of its usefulness in providing an appropriate method for the study of musical performance blocks, especially for late arrivers.

To begin, a short overview of the bio-aesthetic approach is presented to introduce its special terminology; the meanings of this terminology and its implications. This will become clearer as the chapter unfolds. In brief, Cohen's (2005) bio-aesthetic approach holds that underlying a coherent musical performance is a fundamental organizational principle of practice and performance preparation that synchronizes the performer's biological, cognitive, and musical resources in an expressively timed manner. This results in an expanded ability in the performer in dealing with contingencies that arise in a performance. Instead of becoming blocked, the performer is better able to turn apparent obstacles to creative advantage. This notion of a performer being able to spontaneously and effectively handle unanticipated situations (musical or otherwise) in a performance in a creative and dynamic manner, is referred to as "creative variability".

Creative variability occurs when a performer spontaneously re-shapes a previously composed work into a novel musical experience in real time. The piece can be of any length or degree of complexity. For instance, musical structure can be broadened or narrowed while retaining the essential structure of the music. In other words, musical parameters such as agogics[16] (unstressed duration of notes), dynamic gradations, articulations, tonal colors, tempo, phrasing and others can be manipulated without changing the pitch of the music. Most evident in creative variability is a sense of immediacy: an expressively timed response to an unanticipated change in the performing environment. (Cohen, 2005, submitted).

Creative variability (Cohen, 1990; Korman, 1996) in performance is contingent on *immediacy of response* without anticipation or reflection; and that *immediacy of response* is contingent on *optimum synchronization* of the performer's biological, aesthetic and cognitive resources. It follows that *optimal synchronization* demands an *organizing principle* capable of causing the totality of resources to combine into an *undivided whole.* In the bio-aesthetic context this organizing principle is called an *embodied* or *external/embodied conductor, delegated to synchronize and direct the "internal orchestra"* in musical motion and in real-time.

From this perspective, a musical block is a disruption of the conductor's ability to direct and maintain musical motion in real time. Carried a step further, a block can be understood as a *disruption* of the *embodied conductor's ability to direct* and maintain *musical motion in real time. Musically,* a block can be understood as a disturbance in maintaining an "on experience". It is particularly important to note that the *embodied*

[16] Agogic relationships in music refer to durational relationships between notes. This can create a sense of musical direction.

conductor is an essential factor in the co-exploratory sketch/test and digress model of practice, rehearsal and performance. The application of a pedagogical approach based on this model facilitates immediate and long term auditory, visual, kinaesthetic, and tangible verification by both the performer and the performance coach. It is therefore, a promising, somatically-oriented procedure for reducing blocks.

To grasp the approach used in this study, we will begin by defining three core terms in BAMP, namely, "biological," "aesthetic," and "cognitive." The "biological" in the bio-aesthetic approach refers to "the expressive parallels that can be drawn between auditory, tactile, visual, and kinaesthetic modes of apprehension; to expressively timed cross-modal synchronization of these modes before and during actual performance; and to the synchronization and timed variability of biological rhythms (as opposed to metronomic rhythm) (Cohen, 2005 submitted), homeokinesis (Dubos, 1972; Der, Steinmetz & Pasemann, 1999) or homeorhesis (Waddington, 1957). The "biological" dimension of the bio-aesthetic approach involves balance and flow that is maintained in facing unanticipated contingencies or otherwise unresponsive environments (Cohen, 2005, submitted).

The "aesthetic" in the BAMP framework refers to what Cohen (2005, submitted) calls the "poetically moved body." Aesthetic order involves the perception and organization of relationships between shape, texture, emotive tone and overall structure in a coherent, real time musical performance. At a more detailed level, it includes the relational patterns that connect agogics (dynamically unstressed durations), articulations (pronunciation), rhyme schemes, dynamics, and rhythmic stress. Intrinsically variable in real time, these relational patterns form the details of meaningful expression.

Most crucial is the paradoxical nature of organizing cognition in the bio-aesthetics framework, i.e. the performer observes while his or her embodied and external embodied conductors are delegated to direct the performing body through expressively timed gestures and/or touch or tone. The embodied conductor causes synchronization to occur by means of a source outside the body.

Cognition in BAMP is viewed in terms of paradoxes and metaphors, in which intention and response are assumed to be indivisible. The aim is for the performer to cultivate the experience of simultaneously playing and not playing in performance. Overall, a coherent music performance is generated and guided by specifically timed causal relationships between aesthetic values and biological organization. From this perspective, bio-aesthetic synchronization defines the distinctive, expressive, cognitive, and logical imperatives that unfold during the course of a performance" (Cohen, 2005, submitted).

Challenges involved in a Live, Solo Performance

Selection of an appropriate and effective research perspective for the study of musical performance blocks as experienced by the late arriving pianist requires an examination of the specific nature and unique demands of a coherent, solo, coherent and real-time musical performance, and how these may present a multiplicity of potential challenges for the performer that could lead to blocks. BAMP provides a unique perspective on this.

Consider the many inherent challenges facing a solo piano performer. To begin with, the demands upon solo musical performers are very different from those of chamber ensemble and orchestral musicians. It is customary for the solo pianist to perform an hour

or more of music from memory in a formal recital. Chamber musicians, on the other hand normally perform with the score, while orchestral musicians not only perform with the score, but depend upon a conductor to direct virtually every aspect of the performance. In contrast, in a solo performance, the performer has little to fall back upon but hours of dedicated practice and pre-performance preparation – more specifically upon embodied resources that are presumably capable of meeting contingencies as they arise.

Moreover, the performance should appear to be spontaneous and should give the impression of a creatively inspired improvisation. Rather than just reproducing a work that has been carefully memorized, the performer should give the impression of being in some sense possessed by it (Cook, 2000). The first distinguishing characteristic of a solo performer is performing alone on stage. For emerging performers, the pressures associated with potential failure could be tremendous. An indifferent response or a bad critical review may not only be devastating, but also potentially sabotage the future for a concert career.

The challenges that the soloist has to endure are further compounded by the convention of playing without a score. Unlike a painter who is afforded the luxury of modifying his sketches many times over before exhibition of the finished work, the solo pianist is obliged to deliver a live performance of an entire concert repertoire from memory on stage in one take. There are no retakes, no cutting or splicing. Once the first note is sounded, the performer is committed to finish the piece whatever the consequence. Moreover, unlike live performances in the 18th and 19th centuries, live performances today are often measured against recordings as well as assumptions about

stylistic correctness, or authenticity of interpretation in the sense of a faithful re-creation of the composer's intentions (Kivy, 1995).

The fact that the success or failure of a live performance in a one-take real-time event (Chan, 1995) can contribute significantly to the "I played it better at home" syndrome. Being able to achieve a flawless performance on the day *before* an actual performance at home alone or for a group of friends simply does not count – hence, the syndrome. These circumstances, in and of themselves, can generate blocks for the performing artist, because the performer is required to perform under circumstances in which one has to fulfill the pressures and demands of a virtuoso performer.

The complexity in solo, live, and formal performance in relation to blocks requires an approach that encompasses not only the physiological, and psychological demands of musical performance, but also addresses the subjective and creative realities of the performer in action. It is for this reason that the BAMP framework seems to be a suitable point of departure for research into performance blocks experienced by late arriving performers.

Aesthetic Order

In the bio-aesthetic framework, aesthetic order is differentiated from conceptual order or categorization. "Aesthetic order in music concerns itself with the perception of beauty, of spatial and temporal relationships, elegance, line, shape, emotive tone, flow and generative movement. In music performance, aesthetic ordering organizes the performer's body through integration of sense and idea, and focuses it into a real time experience" (Cohen, 1998).

This real time musical experience can be said to have references in the primary sense experiences of rocking (rhythm), touch, emotive tone, balance, movement, and direction of energy. These sense qualities are communicated by the performer and interpreted by the listener.

The biological correlates of aesthetically timed musical experience include the integration of the performer's neuro-muscular and vegetative resources – breathing, gesture, and sense of balance into a unified whole. This is, by its very nature, a complex process that requires resolution through external manifestations (for example: conducting, scatting, and touch) that are tangible, visible and allow for objective verification. These manifestations simulate and reflect much about the inner state of the performer.

Biomechanical or Bio-aesthetic?

The review of literature in Chapter 2 pointed out that the majority of studies rely on the biomechanical perception of musical performance. The rationale is that movement is one the major points of the biomechanical approach in musical performance. From the perspective of BAMP, a problem with this approach is that it does not take into consideration the aesthetic dimension inherent in performance. Despite the importance of the relationship between aesthetics and the movement factors in studying performance, many researchers, performers and teachers are not aware of the central nature of these aspects in musical performance.

The core concepts of kinesiology as typically used in many studies indeed help both researchers and pedagogues to understand the nature of musical performance and the role of movement in performance. However, these concepts lie in the realm of the biomechanic approach, not bio-aesthetic. As mentioned earlier, the stand-up comic's

routine (Cohen, 1996), or the performing musician's virtuosity lie in their impeccable timing and co-ordination. Similarly, a movement which looks jerky or sporadic is considered uncoordinated, and one which looks smooth and graceful is considered coordinated. Moreover, a biomechanical approach does not analyze the generation of movements synchronized with the performer's expressive intentions.

A biomechanical approach to musical performance does not include in its analysis the aesthetic dimension of performing. BAMP, on the other hand, helps researchers and pedagogues identify and relate a multiplicity of factors to the aesthetics of musical performance.

(a) Physics and Aesthetics

To derive a complete understanding of blocks, Cohen (2005) points out that various interacting principles involved in performance must be identified: the question of motion and movement as observed in classical physics, and how these are related to the bio-aesthetic bodily movements. In the context of a musical performance, movements are more bio-aesthetically directed than mechanically directed because the body, which is a biological entity, is proceeding within an aesthetically-conceived structure - that is, the structure of a notated musical composition.

(b) Simple Harmonic Motion

The link between motion in classical physics and bio-aesthetic movement in musical performance is explained by simple harmonic motion, one of the most common types of motion found in nature. In this type of motion, objects that are initially displaced slightly from a stable equilibrium point will move back and forth about their equilibrium

position with an amplitude and a constant, well-defined period. Simple harmonic motion can be translated into a subjective sensory experience of "repulsion" and "attraction," or "propulsion" and "retraction" by the musical observer-participant involved.

This subjective experience of "propulsion" and "retraction" can be directly applied to the performing artist's understanding of the specific nature of physical movements involved in musical performance. The experience of a "winding up" of the "springs" as one generates a "pre-movement", is similar to that of a tennis player straightening his arm by swinging his racket in the opposite direction first until it reaches its full amplitude, before serving the ball by giving it a hard whack as the arm swings back. This is also in line with the phenomenon of the driven pendulum where a force is applied when the pendulum reaches its maximum amplitude.

(c) Direct Performing Experience

In dealing with musical performance blocks and in assisting the blocked performer in unblocking, it is crucial to consider the performer's experience of it. Whether performing off a score or freely improvising, performers reveal their background training, experiences, personal views (and biases), interpretive insights, efforts and strategies employed during practice at a physical, cognitive and kinesthetic level, and ultimately presenting a personal interpretation of the music on stage for an audience.

There are crucial issues involved in the discussion of the subjective experience in musical performance. These include organization (emotional, perceptual, artistic, physical, mental and aesthetic), timing, and many others that require acknowledgement in

their contribution towards performance blocks. Subjective experience – transient and elusive – may not be easily examined by researchers nor clearly communicated to the observer, but experiences of blocks can be traumatic and debilitating to the performer. This theme will be further developed and explained in subsequent chapters.

For Cohen, the rationale for a bio-aesthetic approach to musical performance stems in part from the problems associated with attempts to understand the phenomenon of blocks in objective and replicable terms. This presents an extremely complex task for both performers and researchers, that is, for the performer for whom the experience is the reality and for the researcher who must translate that experience into objective terminology.

The challenge here is that a subjective experience, like that obtained when visually imagining a cue in a musical performance, has a different conceptual status from the objective aspects of the phenomenon. How, then, can one link the subjective with the objective in a meaningful way? It is clear that the subjective experience "does not refer to an event taking place in an objective world existing independently of me because there is no identifiable sensory stimulus or stimulus situation to which this type of experience can be related" (Richardson, 1999, p. 470). This proves to be a major issue faced by scientists, especially psychologists, who are required to approach human behavior and perceptions from a predominantly objective perspective.

The challenge has given rise to two types of reactions. Extreme reactions include the banishment of the study of subjective experiences along with all other references to consciousness. According to Ray (1964), "... experience is private implies that it cannot be investigated scientifically. Consequently experience is not an object of study in a

scientific psychology" (p. 9). Advocates of a more moderate reaction, on the other hand, argue that what we can legitimately study is no more than a report of the subjective experience. For example: "Most subjects will give a report of seeing an after-image and a 'flight of colors.'.... What must now be stressed is that we do not (and cannot) really know that the subject sees the sequence of colors. All that we can say for sure is that subjects consistently report seeing a sequence of colors" (Kimble and Garmezy, 1968, p.11).

However, Richardson (1999) questioned the claim that we can only study the report of the subjective experience. Commenting on Kimble and Garmezy (1968), Richardson noted, "Had I been an investigator of this phenomenon, I would have arranged to be a subject in this experiment. If, as might be expected, I had seen a "flight of colors" similar to the one reported by my participants, would I not feel more justified in claiming that, under these conditions, this subjective experience actually occurred? This issue of whether we are studying mere reports or genuine experiences seems to have been forgotten, and I suspect that many contemporary psychologists with an interest in subjective experience assume that they are using natural science procedures when, clearly, they are not" (p. 471).

The need for the investigation of the subjective experience in musical performance is at the core of the BAMP approach. As part of the bio-aesthetics' investigation of musical performance blocks, one can ask the following questions regarding subjective experience: What exactly is the inner subjective experience of a performer when she is blocked? How does the performer manage to communicate her artistic intention to an audience in a way that is not necessarily how she experiences it? Is

the soloist experiencing the emotion directly or is she structuring it? If so, how is she structuring and shaping the music? What is the performer's aesthetic experience of the musical context? How can the musical performer organize the aesthetic and emotional content in order to portray it? How can she optimize herself for a demanding performance through the perception of it as a biological *and* aesthetic experience? How can emotional aspects pertaining to coping with a demanding performance situation be addressed to facilitate a performance? At times, an artist might appear to have "overcome" certain blocks, however, these "ghosts" may re-emerge under situations of tension. Why is that so?

Cytowic's (1993) work on synaesthesia in music and Ramachandran's (1998) work on imaginative thinking may shed light on the above questions. The experience of synaesthesia and imaginative thinking have been widely described amongst musicians and examination of these phenomena shows potential in understanding how it may be related to musical performance blocks and how unblocking may be achieved.

According the BAMP, unless these questions are addressed in a context that is linked to the web of the life experiences of the individual, their practice experience, musical context and their aspirations, examination of any performance interferences in isolation and in a laboratory setting with no due regard to the artistic elements and subjective experience limits a full understanding of what cause blocks and how to prevent them. That is why the BAMP perspective emphasizes that researchers acknowledge the direct performing experience and investigate the nature of these experiences using the bio-aesthetic approach. It must also be emphasized that bio-aesthetics begins with observing the (blocked) performer as a player and not as a patient in search of therapy.

(d) Vocabulary

A key aspect of BAMP is the use of a performance specific vocabulary in the unblocking process. That may be implicated beginning with establishing distinctions between reading or translating a musical score. Vocabulary used in communicating with participants can influence how musical ideas are understood and translated. The way in which a musical idea is articulated may have a strong impact on the musical performer's perception on physical and aesthetic relationships to the musical text, instrument and performance environment. As Slobin (1987, 1996) points out, vocabulary influences thought by obliging us to attend to selected aspects of our experience, Boroditsky (2001) and Gentner, Imai and Boroditsky (2002) demonstrated in their studies on the perception of time, how metaphors can shape the mental schema of an individual. Boroditsky (2001) argued that vocabulary usage is a powerful agent in shaping habitual and abstract thoughts. Hunt and Agnoli (1991) review evidence that vocabulary may influence thought by making habitual distinctions more fluent. We may conjecture that by adopting a more appropriate vocabulary a musical performer can alter inefficient habitual patterns of performance: the assumption, for example, in the BAMP paradigm that a performance directed vocabulary will more readily translate symbolic and theoretical representation of the music into a synchronization of one's performing resources. This is presumed to provide a means of countering the susceptibility to blocking that comes with a literal perception of the music.

In areas of research where verbal communication is necessary, great attention is paid towards the choice of words - since implicit within each word lies meanings

associated with specific modes of thinking, or schemas[17] that relate to the system of prior experiences in the performer. Cases, specifically for the blocked individual, triggering an array of prior experiences may increase the performer's susceptibility to blocks. On the other hand, if the vocabulary taps into the creative resources it will presumably activate schemas that may be associated with unblocking

(e) Timing

Cohen's Bio-aesthetic Timing

"To discuss movement in the framework of timing is to delve into the bioaesthetic experience" (Cohen, 2004, p.8). From the BAMP perspective, the notion of timing is closely related to the bio-aesthetics of musical performance, where musical timing is achieved through sensed judgments. Bio-aesthetic timing (understood as "expressively directed timing") can be considered a special form of cognition – a mode of knowing that relates the performer's artistic intentions to the precision of execution.

In this view, the aesthetic idea organizes and directs the biological response. In musical performance, timing as a bio-aesthetic function involves the ability to craft the musical text while simultaneously making and acting upon sensed judgments continuously, concurrently and consistently in real time.

Because timed sensed judgments have to do with anticipating sounds, as well as following through to other sounds and silences, "they define the line, shape, character, nuances of articulation, dynamic patterning, plasticity of rhythm, emotive tone, and other

[17] Research by Boroditsky (2001) suggests that metaphoric relationships between domains are primarily shaped by language. She notes English and Mandarin speakers use different spatial metaphors for time, where English speakers made reference to time as if it were horizontal, while Mandarin speakers commonly use both horizontal and vertical metaphors in talking about time. This difference between the two languages is reflected in the way their speakers think about time.

dimensions that constitute a musical experience. This remains true whether the music is notated or improvised. And when creatively exercised, these timed and sensed judgments move the music in directions that may defy explanation, yet emanate qualities of artistic personality and originality" (Cohen, 2004, p.9).

One of the themes in timed and sensed judgments is homeokinesis or the balance and flow through time, change and unanticipated contingencies. Homeokinesis refers to the performer's ability to craft the performing environment by maintaining a stable internal environment which is achieved by making constant dynamic physical adjustments in the act of playing. These adjustments are ideally made in terms of a creative, aesthetically coherent, and physiologically efficient basis.

Outside the scope of Cohen's aesthetic timing, there exist two schools of thought on the relationship between timing and movement. The first proposes that movement generates rhythm and timing; the second claims that rhythm and timing can generate movement (Clarke, 1997). These are now discussed in turn.

Movement Generates Timing

According to the motor control perspective, structural information generates certain types of structured behavior with the use of internal clocks (Palmer, 1997). The conception of the internal clocks is based on a phenomenon that characterizes the anticipation and coordination of gestures, e.g. accompanying musical sounds with tapping. The use of clock models as an approach to understanding movement in a musical performance is supported by the evidence of reproduction tasks wherein subjects hear and then reproduce musical rhythms by tapping.

One major implication of the clock model is that temporal variance in performed event durations may be attributable to variance in the internal clock. Early models of the timing mechanisms underlying tapping behaviors divided the temporal variance into lack of precision due to an internal clock and due to motor response delays (Wing & Kristofferson, 1973). In a study comparing the temporal variance in skilled piano performances, Shaffer et al. (1985) found that timekeeping was directly controlled at intermediate metrical levels of the sub-beat, the beat, or the bar. Earlier, Shaffer's (1984) study of solo piano performances had shown that timing was directly controlled at the beat level, which allowed the two hands some temporal independence in coordinating note events below the beat level that differed in duration. Another implication of the clock model is that performance timing can also show signs of stability at more abstract hierarchical levels, such as entire musical pieces (Palmer, 1997).

Timing Generates Movement

The conception that timing generates movement stems from the idea that musical performance and perception have their origins in the kinematic and dynamic characteristics of typical motor actions (Palmer, 1997). For example, regularities observed in a sequence of foot works during walking, jogging, or running are the same as the regularities seen in sequences of note values when a musical performance changes tempo. Consequently, aesthetically satisfying musical performances should be those that satisfy kinematic constraints of biological motion (Shove & Repp, 1995).

The problem with kinematic models is that, as pointed out earlier, rhythmic changes in musical performance are guided by perceptual (i.e., subjective) rather than kinematic properties. For instance, large tempo changes cannot occur too quickly,

because the rhythmic categories that occur within the region of tempo change will not be perceived as intact (Desain & Honing, 1992). Moreover, Palmer (1997) cites Clarke (1985) who stated that rhythm identification and discrimination tests suggest that categorical distinctions underlie the perception of rhythmic structure, and performers' use expressive timing to separate durational categories of note events even more when the absolute durations of the events are converging at fast tempo.

(f) Embodiment of Structure and Perception of Performance Expression

As noted in the preceding chapter, the embodied cognition paradigm (Damasio, 1995; Lakoff & Johnson, 1999; Varela, Thompson & Rosch, 1991) treats cognition as an activity that is structured by the body present in its environment. Accordingly, dealing with aesthetics and communication of emotion through musical performance inevitably requires dealing with embodied perception and organization. In musical performance, analysis of aesthetics and expressive intent requires analysis of structure and its relation to performance creativity and performance expressions. From this, one may infer that coping with musical performance blocks may require the performer to cognitively restructure the specific experiences embodied in processes related to musical practice and performance.

The relationships between musical structure and performance expression have also been examined in previous studies (Clarke, 1988; Palmer, 1989). In the perspective that musical structure is associated with expression in terms of explicit generative principles, systematic patterns of expression result from transformations of the performer's internal representation of musical structure (Clarke, 1995). Palmer (1997) identifies three sources of evidence supporting the view that structure systematically

generates expression: (1) the ability to replicate the same expressive timing profile with very small variability across performances; (2) the ability to change an interpretation of a piece and produce different expression with little practice; and (3) the ability to perform unfamiliar music from notation with appropriate expression.

If musical structure generates performance expression, then performers should find it more difficult to imitate a performance that contains an arbitrary relationship between expression and structure than a conventional one. In fact, Clarke (1993) found that pianists most accurately imitated a performance that contained a conventional relationship between phrase structure and phrase-final lengthening, as compared to reproducing synthesized versions that contained distorted structure-expression relationships. This finding may also suggest that musical performance blocks are likely to happen in situations where the musician is obliged to perform a piece without a clearly defined expressive or musical structure.

(g) Metaphors

The bio-aesthetic approach to musical performance enables researchers to analyze the correlation between performance and cross-modal synchronization. The cross-modal synchronization phenomenon posits that voluntary cross-modal associations can be understood as a form of "parasynaesthesia"[18], a term coined by Cohen (2005, submitted), which can be used as a metaphoric cue to facilitate organization in musical performance. For instance, the musician speaks of a "sweet tone", "a cool interpretation", "a

[18] According to Cytowic (1993), synaesthesia is a normal brain process and occurs when mental processes are made prematurely available to consciousness. Although research on synaesthesia and how it may be related to blocking and unblocking is still in its infancy state, examining it may provide researchers some insights about how the brain operates, and perhaps inspire creative associations as to how unblocking may be achieved.

mesmerizing performance", "a well-shaped phrase", and "a biting attack". If these pairings are taken literally, none of them makes sense. However, it seems that musicians, the audience, including the uninitiated ones, immediately understand these pairings. Indeed, a directive to "play louder", while factually precise, is aesthetically imprecise when compared to a directive to "play a forte section more brilliantly." These examples indicate cues often used in performance by musicians even though they may be unaware of its metaphoric effects.

In the application of cross-modal synchronization to musical performance -- that is, the adoption of a procedure to deliberately promote cross-modal synchrony, multiple senses are explored and combined to enhance performance memory. This synchronization process can help to free performers from relying on aural, visual, tactile or memory alone (Cohen, 2003). The process of cross modal synchronization can be implemented in practice, for example, by having the artist experience sounds through focusing on aspects such as movement and touch.

Cohen (2005) also points out that it is essential for musical researchers to develop a "metaphoric and verb-based language that is emotively oriented" that can serve as a "performance specific language" addressing the kinaesthetic (musical motion oriented), somatic (sense of the body), and aspects of subjective experience in musical performance. This language would not only precisely describe the subjective experience of the blocked performer, but it could also be effectively and meaningfully articulated within the community of artists and scientists to enhance better communication (Cohen, 2005). This approach, he suggests, may transcend barriers between various modes of understanding between the disciplines of performing arts, musical pedagogy and psychology, and as a

result, may open new possibilities for future collaboration between researchers and performers in developing effective solutions towards unblocking.

In thinking about how to create this emotively oriented language, Cohen argues that metaphors, assonance, alliteration, combination of the senses, and paradoxical cognition oblige the performer to imagine and think. This can be effectively used to communicate at a non-verbal/subconscious level of certain meanings that we are already familiar with. In using metaphors, there is no uncertainty in the message conveyed because in our minds, we already have a pre-structured cross-sensory understanding of the metaphor; the use of metaphors in creating within the musical performance context is based on our universal physical and sensory experiences. For example, the pianist can "descend into the keys as if the fingers are going through thick and sticky molasses"—a simple but precise metaphor that creatively combines visual, tactile and kinaesthetic imagery.

Indeed, the process of cross-modal synchronization can be a useful tool for stimulating creative focus and continuity in the performing arts. Cohen argues that such synchronization relies on a creative need that is fulfilled through metaphor and related cross-sensory modes of blending. This suggests that from the first inspired "idea" to its reification in a performance, creative individuals will routinely employ cross sensory references "as if" they make sense. This brings us to the concept of paradoxical causality.

(h) Paradoxical Causality

Paradox plays an import role in BAMP. Paradox is an essential, "poetically licensed" aspect of the creative process involved in musical performance (Cohen, 2005, submitted). Basically, paradox shapes bio-aesthetics in performance by forming an

alternative logical reference to enhance musical performance. By integrating standard and non-standard modes of cognition, these vocabularies help generate cross-sensory synchronization between a musician's aural, kinaesthetic, tactile and visual modes of expression (Cohen, 2005, submitted).

Creative variability, as mentioned earlier in this chapter, is facilitated when a piece of music is spontaneously shaped into a novel experience. Most evident in this spontaneous re-shaping is immediacy – an expressively timed response to an unanticipated change in the performing environment (Cohen, 2005, submitted). In terms of expressively determined timing, creative variability can be understood as reflecting aesthetic judgments experienced biologically and communicated in real time. These expressively timed relationships between successive actions organize and direct the biological responses. These responses, in turn, are communicated directly to the listener. Cohen (2005, submitted) states that, as a working reference, the bio-aesthetics of expressive timing can be said to have its roots in the primary sense experiences of rocking, touch, emotive tone, gesture, movement, and balance.

In essence, the principle of paradoxical causality in BAMP argues that temporal and spatial modalities and relationships may be cognitively re-structured (in a paradoxical manner) to establish uninterrupted flow. For example, "in a rapid passage work that requires split second accuracy, one musical voice may cause another to sound" (Cohen, 1996, p. 3). Likewise, "a future sound (a point of arrival) may cause a present sound (a point of departure) to surge towards it" (Cohen, 2005, submitted, p.xx). At a physical level, cause may be "delegated". One finger may cause another to move; a visual

image of the text, a musical voice or movement of a key may cause a tactually perceived pattern of sounds.

When the performer is operating in the mode of paradoxical causality, "logical reasoning is suspended in order to embody the essence of the reality of the moment" (Cohen, 1996, 1998) necessary to make the performance a credible and unique experience. For instance, to generate a brilliant tone in a piano performance, the performer can use the non-playing hand to cause a chord to snap into the palm of the playing hand. This serves as an "embodied conductor" within the performer to facilitate the unblocking process.

The "embodied conductor" is characterized by its function as a delegated cause rather than a focus of attention and relies on paradoxical articulation between acting and being acted upon. Getting off oneself to perform one's best suggests an affinity with the "external focus of attention" proposed by researchers from William James (1892) to Singer and Cauraugh (1993). According to Cohen (2005, submitted), the implications of paradoxical causality point to a logic where intention and response are assumed to be indivisible.

Citing Simonton (2004), Cohen (2005, submitted) notes that the indivisibility between intention and response indicates the ability to risk turning an unpredicted event to creative advantage. This indivisibility may eventually help the performer unblock. In this regard, "It doesn't matter whether the event is a sudden inspiration or an obstacle or whether it comes from the music, the environment, an infirmity, an accident, or by pure chance" (Cohen, 2005, submitted).

Causality as an organizing factor points to performance related options that may help the unblocking process. Because any given performance block will involve a complex pattern of rational and non-rational factors, calling into play an apparently workable paradox would seem reasonable. It follows that for an alternative cognitive organization to be effective, the paradoxical associations need to construct a path that bypasses habitually developed negative patterns to achieve a fluid performing experience.

A further understanding of the phenomenon of "being on" may help clarify the paradoxes involved in the process of unblocking. The paradoxical experience of "being on" is one of simultaneously "playing and not playing" (Cohen, 2005). The performer has to be both aware and unaware simultaneously, much akin to an "auto pilot" that senses it and leaving it to happen by itself. It is only in this condition that the performer is truly aware of what is going on. This is analogous to two experiential tracks operating in parallel – on one track, the performer knows what is happening and plans for what is coming ahead; on the other track, the performer lets the body go on autopilot. This state is achieved in preparation and rehearsals for a performance which, "favors the prepared mind" (Pasteur, 1854).

Cohen's observation (2005) that the "being on" experience of observing while delegating the action is in itself paradoxical. By delegating the action, the performer from this perspective is less likely to fall into the traps of blocks.

(i) Non-Verbal Communication

Non-verbal dimensions of the musical performance are encoded by the composer through notation, the performer recodes from the notation to acoustical signals, and the audience recodes from acoustical signals to ideas (Kendall & Carterette, 1990). This

involves a translation process from musical ideas to notation (e.g. naming the notes) to performance (e.g. making expressive musical movements) in different modes, to the perception as picked up by the audience. The performer is dealing with non-verbal aspects of communication which is distinctly different from verbal communication (Gordy, 1997), and operates at a somatic level – it involves touch, gesture, gaze, postural set and related expressive actions. The ultimate effectiveness of a musical performance therefore partly depends on how the audience perceives the gestures, facial expressions, and movements of the performer; as well as how the audience perceives the effectiveness of the music created by the performer.

In many cases of non-verbal communication, the performer senses the relationship with the dynamic performance environment and responds to it accordingly without necessarily being able to verbalize them. The translation process from notation to performance is not only difficult to verbalize but is predisposed to disruptions and potential blocks in the performer. It is for this reason that musicians rely heavily on performance specific cues that not only communicate within musicians and the audience, but also help organize the somatic and aesthetic performing experience. Blocks can be generated in the translation process from the vocabulary of notation to that of a somatic reality of a performance in musically structured motion.

The expression of musical emotion involves a level of non-verbal communication that requires the assimilation of bodily movement and gestural cues in a bio-aesthetically integrated manner. Failure in achieving this may likely bring about blocks in musical performance.

(j) Cues and Transferability

Analogous to gestural cues given by an orchestral conductor, awareness is facilitated when a musician works from specific cues that focus on a non-performing part of the body, or an "outside action" (Cohen, 2005 submitted). These may vary from explicit gestural cues given by an orchestral conductor, to internal cues used within a performer (may include anything from scatting[19] to conducting with one hand while performing with the other). For instance, Glenn Gould is a prime example of a performer who deliberately conducted himself during a performance.

Verbal cues[20] include metaphor, analogy, ambiguity, inference, alliteration, assonance, and rhyme; on the other hand, non-verbal cues include primarily expressive gesture, tactility and tone. Cohen cited the example of Beethoven visualizing a statue beginning to shape itself. This visual imagery served as a useful cue for Beethoven in the thematic development of a composition (Solomon, 2003).

Cohen recounted (personal communication, 2004) an experience where a psychiatrist, who also happened to be a harpsichordist, would fall into conceptualizing his negative emotions while performing. As a consequence of this approach, the harpsichordist became physically tight. In order to remove the interferences, Cohen helped him work in an intrinsically musical way by providing him with somatic cues such

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[19] It is a part of the traditional practice technique in Indian music where all syllables are articulated with different qualities of sounds, durations, and stress patterns which helps to make it more precise. The term "scat" is normally used in jazz. In the context of this thesis, however, scatting refers to synchronized lip and tongue movements that follow the rhythm and inflexions of the music without intoning the melodic contour to provide clarity in articulation. Generally, musicians intrinsically use scatting as an accompanying device to accompany their performance. In part of the sketch/ test and digress regimen in BAMP, scatting is employed as a means of simultaneously causality. Emphasis of scat is intended to free the playing body.

[20] Cues can be aural, sensory or visual based. For the musical performer, a cue is something that brings together a musical and performance-related imperative in creating a coherent performance.

as gesturing in relation to the musical nuances such as dynamics, articulation. Musical images of playing legato and diminuendo were also used to help "musicalize" the performer. Although the nature of the harpsichord does not afford the creation of legato and dynamic changes (diminuendo and crescendo) effects, the image of simulating these effects helped the performer to regain musical expressivity. The critical question, however, is whether the performer is able to *transfer* this experience to other pieces.

Transferability provides a ground for researchers to study musical performance blocks. Prescriptive technical exercises (e.g. scales) will not automatically translate to a musical performance. If a scale is treated as a musical phrase with a specific character and with a beginning, middle and end, with a specific musical character and given an aesthetic meaning, then the translation is more likely to occur. Cohen (2005, submitted) emphasizes that the subjective experience should not be confused with feelings of self-worth or inadequacies. Rather, it should be related to the subjective experience of performing the music. So, the question lies in how the performer can give musical meaning to the piece.

Training, as valuable as awareness of movements such as the Alexander Technique and Feldenkrais Method, will not necessarily transfer into a coherent musical performance. If, however, the simplest motif or scale is treated as a musical phrase with inherent aesthetic meaning, then blocking is less likely to occur (Cohen, 2005 submitted).

(k) Sketch, Test and Digress Verification Model

The sketch, test and digress verification model in BAMP involves a "hands on" mode of working aimed at helping the blocked performer to unblock by experimenting with a variety of musically or cognitively directed options during practice (i.e., sketch).

By checking whether each of these options are viable (i.e., test) under a variety of interpretive and performance contexts (i.e., digress), the performer's capacity in handling contingencies that arise in a performance situation is therefore maximized.

The process of sketch, test and digress involved in BAMP is cross modal with special emphasis on cross modal connections such as touch, gesture, and integrating factors of causality. According to Cohen (2005, submitted), "The cross modal method of verification allows both the performer and the observer to evaluate the effectiveness of the conducted responses." As corollary, the working assumption is that a block can be approached through the verification process with an emphasis on how the senses work with one another to facilitate unblocking. This can be used to direct attention away from the block.

Verification is conducted in biological and musical terms through the process of sketch and test. Sketch, test and digress is an exploratory procedure specific to the performing arts intended to maximize the performer's resources for creative variability. This is important because it creates temporary instability within the performer to create a situation of contingency. Digression is an important part of the sketching / preparative process. This helps to turn the performer's attention away from factors that may give rise to a block. Generally, approaching the issue of blocks directly may further aggravate the block.

One of the major aims of sketching and testing is to accomplish unblocking through "indirection" – that is, through instructions that do not directly focus on the block. An example of an indirect instruction is, instead of focusing on a consistent error (such as a missing note), a coach may help the performer focus on the quality of touch by

sensing how the hand responds to the action of the keys. These indirect instructions not only get the performer's focus off the error, but also help the performer establish alternatives for getting it right. This means that the process of unblocking is approached and resolved without drawing attention to the block. The resolution of blocks is intrinsically musical. By going into musical and biological values that are neutral (which do not provoke a block) for blocking, this gives an understanding to the participant that unblocking can be accomplished. As presented in Chapter 5, not focusing on the block or problems associated with it prevents or minimizes the occurrence of blocks. The process of unblocking through indirection serves to set up an alternative frame of reference, which directs the experience away from physical, cognitive and emotional complexities involved in an established block. Another important aim is to achieve immediacy, or in other words, problems can be resolved immediately without back tracking the history of why an old approach did not work.

The process of sketching allows the performer to explore new possibilities and thereby makes it possible to rectify the block. Unlike normal practice and rehearsal, sketch and test is not geared towards giving a polished final performance, but to establish possibilities for spontaneity. The purpose is to improvise upon a notated work, and to equip the performer with a spontaneous capacity in handling performance contingencies. Examples of eminent artists who sketched and tested include Beethoven (Solomon, 2003; Lang, 1970) and Leonardo da Vinci (Barber & Wray, 2004) who respectively sketched 8000 and 7000 pages. Beethoven's earliest sketches dated from 1792, filled more than 50 volumes and several hundred unbound leaves. As Beethoven told his friend Louis Schlosser, "I make many changes, and reject and try again, until I am satisfied. Only then

do I begin the working-out in breadth, length, height and depth in my head, and, since I am conscious of what I want, the underlying idea never deserts me" (Johnson, Tyson & Winter, 1974).

The need for sketching is not due to a lack of competence, but rather to the need for a creatively artistic endeavor to develop. Chopin and Beethoven are both outstanding improvisers and composers, however they still needed to sketch (Schonberg, 1987). The famous painter Picasso said, "the drawing gets under way, a story or an idea is born" that grows from sketch to sketch. "Inventing these stories" he says, "is my way of writing fiction" (Podoksik, 1996 p. 341). In theater, director / actor, André Gregory noted "When you rehearse for a short period of time, a lot of possibilities come up, and then you choose the best one. But if you rehearse for a long period of time, the choice that finally appears is not just the 'best' choice, it is the *inevitable choice, the only possible choice* – not only for yourself but also for your acting colleagues" (Wangh, 2000, p. 324; emphasis in the original).

In a similar vein, the great conductor, Furtwangler was noted for his unique approach to rehearsal. He went through hundreds of possibilities, of which none will be implemented in the final performance. The inspiration behind this is to ensure that orchestral players are fully equipped with alternatives, so that they can rise to the challenge in case if contingencies arise in the final performance (Barenboim & Said, 2004).

A Pedagogical Approach based on BAMP

It is crucial to avoid premature methodological assumptions about how to deal with blocks in a particular student. The pedagogue needs to observe and derive feedback

from the student about his or her understanding for stumbling in the performance (Cohen, 2005). If the student performance is unstable, without affect, or without detail, then the approach should be very different than if the student is aware and disturbed by the problem. Pedagogical approaches may establish a somatic awareness in the student by means of testing.

Cohen suggests that pedagogues have to translate physiological and biological aspects of a performance into a musical performance vocabulary, and help students accomplish it musically even though they do not know the mechanics behind these aspects. This may make it difficult to communicate, particularly if one has to alternate between scientific and aesthetic vocabularies, and to demonstrate the paradoxes. For example, a term like "automated" if taken literally could be interpreted as the imposition of a mechanistic practice method. For some students, this may lead to practice habits that can become potential blocks.

Summary

This chapter has outlined the general features of the bio-aesthetic approach as a fundamental organizing principle towards a coherent musical performance. This approach may provide a useful perspective towards the study of musical performance blocks for late arriving pianists. Keys concepts in BAMP include: aesthetic order, expressively directed timing, homeokinesis, cross modal synchronization (CMS), vocabulary, metaphoric imperative, delegated embodied conductor, and in particular paradoxical causality through a sketch/test and digress model of verification. The argument throughout has focused on certain characteristics of musical performance that could result in a persistent disruption between the performer's biological, aesthetic and cognitive

resources. The central cognitive aspect is the perception of an external conductor as the delegated organizing cause, which involves the cognitive organization of the whole body in relation to the music.

Chapter 4: Research Methodology

This chapter presents the research methodology applied to evaluate the usefulness of BAMP in resolving musical performance blocks in the late arriving pianist.

Methodological Considerations

The exploratory methodology adopted in this study reflects both the theoretical insights and the practical applications developed in BAMP. With this in mind it considers Cohen's methodological rationale in terms of the following: (a) that BAMP is modeled, in part, on the real time "hands on" research practices employed in experimental theatre, dance and movement. Documentation is, as a consequence, largely contained in unedited video and audio recordings and analysis, notebooks, analytical sketches and interviews with project directors and participants. (b) All participants in the present study are "late arriving" pianists with a history of content specific and general performance blocks.

The present methodology aims at providing a means for evaluating the bio-aesthetic premise that established performance blocks can be eliminated or reduced by a cognitively focused re-structuring of the individual's biological and aesthetic resources. It considers, in particular, the effectiveness of the BAMP method of verification in terms of the following:

(a) cross- sensory synchronization

(b) paradoxical cognition: a delegated embodied or external embodied conductor

(c) a performance specific vocabulary

(d) a sketch/ test and digress regimen

The critical issue here is whether this mode of verification can, *in itself,* replace a disruptive behavior with a behavior that is both coherent and creatively variable. If so, are the alternatives that are introduced in the BAMP paradigm capable of maintaining a functional level of efficiency over time and successive performances?

In this regard the methodology draws on the author's participation in and observation of exploratory research into the BAMP hypothesis at Concordia University's Leonardo Project (1992- present). This includes: participation in and observation of video and audio-taped "on stage" explorations, performance seminars, demonstrations, rehearsals and post-performance analyses (1992-present); video-and audio taped interviews with Cohen on research issues relevant to this study (1998-2005); access to Cohen's notebooks and correspondence (2003-2005); a two-year case study conducted by the author with a performance blocked career track pianist (2003-2005); participant in bio-aesthetic unblocking studies involving performance memory and timing (1994); observation of unblocking studies involving performance interference and expressive block (1993); author featured in two television documentaries on the Leonardo Project's bio-aesthetic research (1993, 1994)[21]

A long term aim of the present research is to determine whether the issues involved in musical performance blocks are capable of being examined systematically from (a) criteria within the discipline through direct performance analysis, and from (b) criteria outside of the discipline (e.g. statistical, experimental, cognitive based studies). And if so, what are the implications for the study of human performance?

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[21] Leonardo Project Archives; Television documentaries: The Leonardo Project: Beyond 2000, Australian Television. (1993); Inside Stories: The Leonardo Project Shaping the Invisible. Discovery Channel, Canada (1994), Newspaper Interviews: Taming of Stage Fright. National Post, April, 2000. Seminars, lectures, demonstrations, individual sessions, observations of open rehearsals, audio and videotaped interviews with Cohen (1989- 2005), poster presentations at Concordia University for the CSLP in from 1999 -2004.

In this regard, should the BAMP premise of cross-modal verification prove to be effective, it may provide researchers with a valuable methodological tool in experimental studies related to the performing experience as it unfolds in real time. The complexities encountered by experimenters in real time performance studies often oblige them to rely on a simplified or reduced version of the original composition. (Palmer, 1997, p. 118) This raises methodological issues that are implicit in Balzano's observation that performance is a "hybrid term." As a consequence, it has a different meaning for the performer than it has for the research psychologist (Balzano, 1989, p.437).) The former sees the performance of a musical work as an expressively communicated experience that is complete in itself. A reduction, simplification or "brief snippet of behavior", in this view, alters the meaning of the experience (Balzano, 1989, ibid). From a related perspective in non-verbal behavior studies, Scherer & Ekman (1982) point out that it is best to "rely on a field study when the laboratory environment cannot effectively approximate certain real life environments that are essential to the research".

Palmer concurs but argues that a complex discipline such as music makes it necessary to gather "converging evidence" from a wide range of exploratory and experimental studies. When these are understood as complementary rather than unrelated, they are more likely to provide a body of meaningful contributions to the broader research picture (Palmer, ibid).

Summary

The exploratory methodology adopted in this study allows for a real time evaluation of the context and environment in which performance blocks are formed, reinforced and entrenched.

The subtext of the results may encourage researchers, performance analysts, and pedagogues to re-examine existing assumptions about appropriate methodology, pedagogical practices and approaches to musical performance.

The studies that follow (Chapter 5, 6, and 7) are intended to provide an opportunity to apply BAMP to see whether it yields meaningful and fruitful results in the unblocking of late arriving performers.

Chapter 5: Reflective Case Studies

Introduction

This research study contains three major parts. The first part (this chapter) comprises a personal case study of an unsuccessful performance and four case studies of sketch/test observations of unblocking process using BAMP concepts. The second part (Chapter 6) is a co-participatory explorative study spanning two continuous years, and the third part (Chapter 7) includes interview studies with professional musical performers who have experienced blocks at a certain point in their musical careers. It is expected that the integration of the three parts of this research may serve to provide a source for the evaluation of organizing principles in BAMP, and hopefully reveal other behaviorally related aspects of musical performance that may contribute to blocks.

In the personal reflective case study, I will provide a description of my musical background, performance contexts and subjective experiences based on a series of live performing experiences, as well as participation in television documentaries, duo performances, and observation of lectures, demonstrations, seminars conducted by Phil Cohen at the Leonardo Project. These are followed by a critical analysis of the preparative process and the pitfalls leading to performance blocks. The purpose of this section is to provide a subjective dimension to the study of blocks from the perspective of a performer, in demonstrating how ineffective physical, cognitive and musical organization, coupled with intrusive thoughts and perceptions, as well as a lack of rehearsal experience can lead to debilitating blocks that paralyzes the performer. This offers the reader a glimpse into the direct experience of performance blocks. It is

interesting to note that reflections of first hand experiences associated with this episode functions as a predominant motivator for my interest in studying musical performance blocks.

The purpose of this retrospective account is to provide a reference drawn from my subjective experience as a solo pianist, who went through an avalanche of obstacles which eventually culminated in debilitating blocks and performance failure. Specifically, this chapter aims to show how complex the phenomenon of blocks can be, to indicate how the perceptions, intrinsic attitudes and preparative processes for musical performance can lead to blocks, and to relate this experience to BAMP principles to suggest clues for possible means of rectification.

Background

My passion for music started at an early age. As early as three to four years old, I could pick up melodies from the radio and could even improvise harmonies to familiar tunes on the small keyboard my parents bought me. Although I was musically naïve, I had a natural musical sense, and enthusiasm for playing the keyboard. At six, I was taken to study with a piano teacher. And then the tale began.

After the first lessons, difficulties began to emerge. Because I had problems learning to read the score, I lost my interest in playing. I stopped picking up melodies. I no longer enjoyed playing the keyboard or the piano like I used to. These difficulties were compounded by a number of factors that involved inconsistencies in teaching, practice and in my perception of what is involved in musical performances.

My first piano teacher unquestionably played a significant role in planting the seed for "masochistic", "no pain no gain" approach. My teacher urged my mother to have

the skin between my thumb and index finger severed to increase my hand span so that I could play octaves more easily. Fortunately, my mom decided to let nature take its course, and did not succumb to my first teacher's zealous request.

I was relieved when I was taken to a second piano teacher. The problem, however, is that, she was an exact opposite of my first teacher. She was exceptionally gentle and patient but she was not demanding at all. I would breeze through the pieces she assigned to me superficially, yet she would still praise me for my sight-reading skills, although she knew that I did not practice during the week. She condoned my laziness, and allowed me to play any piece, in any way I liked without giving me any useful guidance. This continued until I was in my late teens.

Throughout my early musical training, it was never made clear to me that, while I had certain musical proclivities, attaining a level of proficiency in the art involves a methodological approach and discipline. The way of handling musical practice and performance was also never properly established from the beginning. My musical performance experiences are reflective of the experiences of individuals I interviewed, taught, and discussed in various classes and seminars.

This series of experiences working with different teachers from childhood until my teenage years in piano playing have resulted in significant blocks. These are manifested in my personal case study.

Reflections on a Blocked Musical Performance

Throughout my early musical training, there had been very few occasions where I was required to perform by memory. It was not until when I entered the undergraduate

music performance program that memorization was made compulsory. I felt insecure about memorizing because I had never learned how to memorize a piece. I had to rely on the score as a clutch in all my performances. By the time I was in my undergraduate music performance program, the pieces that I was attempting were essentially too long and complex for me to memorize.

In addition to the difficulty of memorizing musical scores, I also encountered the following problems in my performance: sweaty hands, tense and overly stretched fingers, pain in the thumb, and feeling of severe tension. As a pianist, my hands can barely span an octave when fully extended. I have always experienced discomfort whenever I attempt to reach for large chords.

As an inexperienced performer, I was not aware of the pain as a warning signal. I endured the pain, and, falsely conditioned into believing that living with pain is a heroic demonstration of character and strength, I continued to practice until my hands were "on fire." As a result of this tension, my thumbs became stiff and numb. I never thought it was completely misdirected, rather, I thought it was demonstration of a heroic attitude.

The Night I was Blocked

In the summer of 1989, I had my last piano performance in Hong Kong. Two weeks before moving to Canada, I was asked if I was interested in performing in a piano recital. I thought that playing my farewell concert in one of the most prestigious venues would be a memorable experience. At the time, however, I had a limited repertoire and little stage experience. Upon short notice, I chose to perform an energetic and turbulent piece - *In der Nacht*, a movement from Robert Schumann's Fantasiestuck.

(a) Practice and Pre-concert Preparation

One of the contributors to my unsuccessful performance was my failure to memorize the music. Because it would be my last opportunity to perform publicly in Hong Kong, I imposed upon myself the challenge to play from memory. Within the short two-week preparation, I spent endless hours practicing and my approach towards practice and memorization was disorganized and random. I would aimlessly repeat the piece until it automatically "fell under my hands", and, in situations when I ran into memory lapses or technical problems, I would re-start from the beginning, hoping that with some luck, the passage might come through.

Working in this mode did not help memorization. Even after endless repetitions, I could still be "stuck" somewhere in the piece, and would get lost completely. In order to avoid exposing my musical limitations of not being able to memorize, I avoided playing for anyone, including my piano teacher, without the score. Days prior to the performance, I was already anticipating a memory lapse in my public performance. But instead of trying to find a workable solution, I refused to look at the problem. I avoided confronting the problem through denial, avoidance, procrastination, and making arguments.

(b) The Pianist and the Piano

The dress rehearsal was informally scheduled two hours before the actual concert. It was only during the dress rehearsal did I realize that the Bösendorfer Imperial nine-foot grand piano had a heavy and unresponsive action. I was apprehensive when I learned that I had to perform on an instrument that was not working in my favor; I could not perform well on instruments that I was not accustomed to using.

Also, given the time constraints, I could only try out a few passages. As expected, I ran into problems. My fingers had to work very hard on the keys, and the keys seemed to be "stuck". As I tried to recall some of the musical passages, my mind drew a complete blank. Probably because I had only practiced by starting (or restarting) from the first bar, I was unable to begin from any section of the piece on demand. At this point, my confidence was wrecked and I realized that I was not ready to perform from memory.

(c) Attending the Concert as Audience and Performer

Browsing through the program, I discovered that the event was a students' recital, with participants ranging from young beginners to undergraduate piano performance majors. I felt upset because I was not informed about the nature of this recital. In addition, I also felt embarrassed because I had to perform in the company of toddlers who could barely play simple tunes.

Then I did an unwise move that would later mortify me: I sat through the first half of the concert as an audience member. Attending the concert as an audience member just before a performance was distracting. As an audience member, instead of concentrating on the performance, I was busily gauging the relative performance levels of participants. In so doing, I was tuned into a competitive mode where I was more concerned with comparing myself with other performers rather than focusing attention on the music.

To make matters worse, I invited my parents, friends, colleagues, piano students and their parents to attend the event. I was worried that I might not meet the expectations of my "supporters". My major concern was that my students and colleagues were there to evaluate me and my reputation would be tarnished if I did not play well. I felt all eyes

were directed towards me and I was overcome by a whirl of distracting thoughts and interfering emotions.

Moments before my performance, two thoughts came to mind: I simply could call it quits; yet on the other hand, I felt a strong urge to take advantage of this opportunity since this would probably be my last chance to impress my audience. Indulging in these thoughts made me feel disoriented, diminished and overwhelmed by negative emotions which prevented me from focusing on the music. While the young pianist before me performed Claude Debussy's "L'isle joyeuse" with exquisite musical sensitivity and colorful nuances, there was an inner urge within me to compete and prove myself. It also made me feel inadequate at the same time.

(d) The Performance

The critical moment finally arrived. Onstage, I tried to scan the audience to see where my friends were seated as I was blinded by the dazzling spotlights. By the time I sat down at the piano, I barely remembered how to begin the piece. My mind was meandering, as my hands were fumbling at the keys barely managing to get through the first page, relying mostly on "auto pilot". I tried hard to gain composure but as I reached the second page, my mind drew a complete blank.

Amid the panic, the unresponsive and heavy action of the piano made it extremely difficult for me to play the powerful and rapid passages. I tried to adapt to the heavy action of the keyboard but my "muscular memory" lapsed. At this point, I lost track of the music, and was unable to continue. I had no choice but to restart from the first bar. Unfortunately, the same problem occurred again at the same spot. Instead of floundering through the piece again, I concluded with an improvised cadence.

Post-performance Reflections

This personal case study is a culmination of a number of problems, from the practice/preparative stage, to the pre-performance and performance stages. In addition to my inexperience on the concert stage, inadequate time to prepare for the performance, there were myriad underlying problems that rendered this particular performance a disaster. There are also specific personal attitudes and perceptions that seriously affected my ability to concentrate during the final performance.

In this section, I will critically analyze why this particular performing experience was unsuccessful by identifying how personal assumptions, attitudes, values and perceptions, modes of practice, inefficient physical, cognitive and musical organization, first imprints and habits, differences between formal and informal performance contexts, and changes in the performing environment can lead to serious blocks that can eventually debilitate the performer. The analysis is guided by Cohen's bioaesthetic approach to understanding musical performance blocks. Taking off from this, I will then propose some alternatives that can be effectively implemented in my practice to prevent re-enactment of such disasters on stage.

First, it is evident that the attitude and motivation behind my participation in the performance was immature and self-serving. My intent for the performance stemmed more from a desire to impress upon the audience to make a personal statement, rather than truly embodying the humble goal of sharing the music with an audience. Furthermore, I was more concerned about the possibilities of failure. As a consequence, I was unable to focus attention on aspects that are relevant to a successful musical performance

The fact that I have small hands is not a handicap in itself. However, as I progressed to more technically challenging repertoires, not knowing how to use my hands effectively without tension and exertion during practice and performance became a major cause of blocking. Similarly, my intense desire to achieve, coupled with stamina and determination in "overcoming obstacles" by charging at obstacles headstrong could be an asset if harnessed strategically and intelligently. However, without proper guidance, these internal forces were not channeled effectively to assist my performances. Rather, this "do or die" attitude resulted in masochistic acts with debilitating consequences.

In terms of the learning process, I was also responsible for the reinforcement of some the blocks that led to performance failure. For fear of exposing my personal limitations, I deliberately avoided playing from memory for my teacher. As a consequence, my teacher was unaware of my problems, and could not help in rectifying these problems.

There were other obstacles that have not been spotted in time through instruction. For instance, the excessive tension built up within my hands as I was struggling to reach octaves had not been effectively dealt with. This may have to do with assumptions espoused by my teacher – for example, she believed that spanning an octave requires stretching if a person has small hands. And if tension is experienced, that is the way it is. Another reason could be that, since this was never a problem for my teacher, she could hardly empathize into how it was like to over-extend the hands to reach an octave. Similarly, memorization never presented a problem for my teacher. In this regard, she assumed that memorization was not a problem for me.

Although I persisted in practicing intensively and managed to play through the entire piece without apparent problems at home, my haphazard approach toward practice was not useful towards developing a reliable memory and a secure performance technique on stage. In fact, the more I practiced, the more I reinforced uncertainties. What I needed to develop was an organized approach to practice without creating unnecessary stress and anxiety in the process, as well as opportunities to practice performing through a series of rehearsals, so that I would learn to cope with dynamic situations that arise in a live performance. In this instance, my final stage performance was in fact, my first and only formal rehearsal in a concert hall in the presence of a live audience. So far, all my "performances" prior to this one were either informal lunch time recitals for fellow students and staff from the music faculty or in examination settings in the presence of panel of six or less jurors. In these situations, I always performed with the score.

As a neophyte performer, I lacked experience in public performance. I was neither aware of the challenges facing a performer in preparing for and handling a performance, nor was I prepared to deal with contingencies that arise in a live, formal performing context. Unlike seasoned professionals who tour the world, performing fifty or more concerts annually, I had only played in a few informal recitals in fulfillment of academic requirements. Evidently, I was not equipped in handling the pressures of having to perform on short notice.

In terms of the failure in memory in the performance, it was clearly ineffective preparation and poor judgment on my part. Firstly, I had never adopted a systematic approach to practicing that helped secure a solid musical memory for performance. My

practice was essentially random repetitions of the entire piece, and emergent errors in the process were never corrected or sorted out. Secondly, I never really committed the piece to memory until the week before the performance. Not until a few days before the actual performance could I actually play through the piece continuously without having to refer to the score. This, however, by no means suggests that I could perform from memory securely in the presence of a large audience in a major recital hall. To make matters worse, I had never actually performed without the score before in formal performance settings.

As we examine the issues of memory from the perspective of cognitive psychology, it reveals that differences in learning, practice, and performance contexts between encoding (i.e., learning and practice) and retrieval (performance) can significantly affect recall. For instance, the transfer appropriate processing paradigm (Bransford, Franks, Morris & Stein, 1979) contends that information is better retrieved if it is encoded or learned in a format similar to that in which it will be retrieved. Also, information that is encoded with the target information during learning can serve as a cue for the target information. Researchers have shown that differences between encoding and retrieval conditions can negatively affect recollection. Examples of such differences affecting recollection include the following: (1) differences in modes of encoding and retrieval, for example: free recall versus cued recall (Thomson & Tulving, 1970), (2) differences in physical contexts, e.g. on land versus underwater (Godden & Baddeley, 1975), (3) differences in mood states, e.g. sad versus happy (Bower, 1981), and (4) differences in the approach in encoding and retrieval, e.g. focus on meaning versus focus on sound of test item (Fisher & Craik, 1977).

In my case, at initial stages of encoding, I worked exclusively from the score - I learned, practiced, performed for my teacher during lessons, rehearsed and performed the piece previously in formal situations with the score. In so doing, I established and reinforced an encoding context which required the presence of the score. The score was the music. Hence, during practice and informal performance situations, I inadvertently established an encoding context that is dependent upon the score. When on stage, however, I performed without the score. In so doing – a clear discrepancy between the encoded and retrieval contexts is created. In addition, I was obliged to contend with other discrepancies between the encoding and retrieval contexts, for instance, the unfamiliar touch qualities of the piano, performance setting, being alone on stage, and presence of an audience.

The description is intended to demonstrate how blocking can be nurtured when preparation, experience, and to a great extent guidance are inadequate, and poor judgment compounded by misdirected perseverance can reduce the likelihood of a satisfying performance.

The blocks described in my personal case study, were specific to my personal background, musical training, and circumstances. Many of the blocks mentioned appear to have little to do with issues of musical performance, perhaps with the exception of tension developed in the hands due to overstretching in order to play octaves passages. Problems in memorization were mostly due to a lack of knowledge of how to effectively and systematically organize musical practice during the phases of acquisition and reinforcement. As a consequence, the mode of practice was disorganized and random, therefore, was insufficiently robust to withstand situations of performance under pressure.

A Personal Word

My musical life in performance and teaching can be loosely defined into two periods. The first period refers to the period before working with my current mentor and piano coach, Philip Cohen. During this period, I was evidently blocked. I also had very little performance experience, and no clear sense of what musical performance entails as a creative art form.

The subsequent period began as a transition in the summer of 1989, when I moved to Canada. I was groomed as performing artist, teacher and researcher simultaneously. In the process, I acquired the skill in examining weaknesses in my own performances as well as troubleshooting for potential problems in performances of other pianists. After researching on issues including musical giftedness, the art of teaching, and musical artistry, and more recently, the study of musical blocks and their resolution, I have come to understand that the creative process is in the preparation through sketching and testing.

During the sketch and test phase, I learnt to make instantaneous decisions on what works, and what does not. I also learned through digression (indirection) that I was able to resolve most of the performance difficulties I encountered, including dealing with memory lapses, and physiological symptoms associated with blocks, such as sweaty hands, and excessive muscular tension and fatigue in the hands. As I learned how to practice and perform under controlled and non-judgmental situations through a series of rehearsals, performances, and post-performance analyses and feedback, I found that blocks that once affected me no longer seem to affect me now.

I also realize that, however, despite the quality mentorship I received, I am not fully immune to blocks. I still occasionally run into potential blocks, particularly in virtuoso repertoires. For instance, in playing the Liszt Concert Etude, La Leggierrezza, I ran into some difficulties at the climactic passage coordinating the chromatic thirds in the right hand with the sixths on the left hand while maintaining a crisp and marcato feeling.

The obstacles that I may currently be experiencing are of a different nature from those I previously had. Instead of catastrophic failures (e.g. memory lapses), my current blocks seem to be related to artistic performance at a higher order – for instance, the inability to achieve artistic excellence in a live performance. Although this may seem to be elusive and difficult to quantify, the experience is profoundly real and tangible to the performing artist.

An example of my perceived inability to achieve artistic excellence is that I am unable to fully express the music in my performances as I envision these in my mind. For instance, in listening to a recording of my recent performance of the Schumann's *Traumerei* and *Von fremden Landern und Menschen* (from "Kinderszenen"), I felt completely dissatisfied with my performance. What I had intended to communicate to the audience did not come through successfully. There was a huge chasm between the musical interpretation I had in mind and what was captured in the recording. Since these are simple pieces, the problem can no longer be attributed to overwhelming technical challenges, or inexperience.

One major reason that I may speculate to be the cause of this block could be that I have not been performing regularly in the last few years, as other priorities such as teaching and academic commitments take precedence. Since my major focus has been

shifted towards teaching, my energies were more directed towards empathizing into my students' problems rather than my own. In fact, to put it bluntly, I am "out of practice" as far as musical performance is concerned. Two possible ways of unblocking which I might recommend for my situation would be: (1) To resume a regular concert schedule to help restore a momentum for performance; and (2) to focus on associating performance intentions to the aesthetic experience as sensed in physical gestures and bodily movements.

From this experience, we may conjecture that these are two different kinds of blocks – catastrophic failure (as cited in the previous case) versus blocks at a higher level in musical performance that inhibit performance excellence, refinement in musicianship and artistry. This observation suggests that unblocking involves a continuous process, as when one set of blocks are removed, new ones may surface. The key lies in constantly staying on guard to detect any signs of blocks as soon as they emerge, and creatively seeking options in resolving them.

The section below will focus on the test and sketch processes I went through in attempting to unblock. These processes were used to help establish confidence in my performances, so that I could perform reliably without the score.

Participative Studies

(a) Sketch and Test Observation 1

Block addressed: Challenge of performing before an audience from memory.

Type of Research: Live, on stage performance involving testing

Repertoire: Haydn Sonata in D major. Hob. XVI: 37. First Movement, Allegro con Brio

Purpose:

(1) An early sketch / test experience in order to confirm that unblocking involves one of cultivation rather than sheer repetition.

(2) A case study for setting up a variety of dynamically challenging performance conditions to see if they hold up under different performance conditions.

Details: The instructions were to play the piece from memory while:

(1) being blindfolded and wearing dishwashing gloves; and

(2) improvising gestures and body movements (in form of a dance, without sitting on the piano bench) while playing the music as written on the score without any alterations in performance indications.

Notes:

(1) This sketching was in preparation for a performance in a documentary about the Leonardo Project on the Discovery Channel.

(2) In subsequent sketches, certain aspects were retained as structural references in the performance e.g. at the opening of the piece (left leg was placed on the keyboard and then swung into place on the beat while other aspects were continued to be improvised as I played blindfolded.)

(3) I played from memory although the word "memory" was never used or drawn to my attention.

The documentary film performance: The performance began with my left leg raised flat on the keyboard, while my right hand was placed on the keys blindly finding the notes at the position with the impulse to play. Throughout the performance, the body moved across the keyboard back and forth, while the legs bent, body straightened, and the

gestures moved from positions below and above the keys. There were movements of the hips, gestural movements of the arms, sometimes wide swinging, sometimes constrained.

Movements were synchronized over phrase units rather than individual notes. The body's dance movements reflected the larger phrase pulse, while the articulations and contrasts were clearly defined. I could not see either the music or the keyboard as I was blindfolded. Throughout, there was a sense of tactility, and the experiential focus was on the touch, reminiscence of Chopin's famous dictum "I hear through my fingers" (Eigeldinger, 1986, p. 14). There was one wrong chord at the finale, which remained in the documentary film.

Analysis: I performed with blindfolds and gloves on while I was moving and dancing across the keyboard. As I could not rely on vision, I had to focus on other sensory modalities, such as touch. Expressive gestures were also used at great speeds. This is normally considered counter-intuitive but this helped to sustain the momentum and accuracy of the performance by maintaining a level of kinesthetic movement throughout the first few pages of the music.

What is most significant about this performance is the fact that tactility, kinesthetics, gesture, and tone were simultaneously attained in a musical way, although the performer (myself) could not see and tactility was much reduced by the dishwashing gloves.

Homeokinesis was also involved, because balance was maintained when I danced around the keyboard while playing. There was also cross modal synchronization, because I could hear through the fingers (without looking) even though I was not performing

standard movements at the piano. This shows that there was clearly indivisibility between intention and response.

Finally, my documentary film performance also shows the importance of gestures in terms of the biological correlations. The gestures were spontaneously altered without losing the rhythmic pulse and aesthetic shaping of the music. In other words, we were dealing with a different level of cognition and the body's response system.

In this case, memory was established through "indirection" - that is, through instructions that were indirect. Here unblocking was approached and resolved indirectly, by specifically not drawing attention to the block. Using gloves and being blindfolded in the performance obliged me to focus on intrinsically musical and biological values that are neutral (which are non-provocative for blocking), the participant understands that unblocking can be accomplished. Further, not focusing on the block or problems associated with it prevents or minimizes actions associated with the block. Unblocking through indirection serves to set up an alternative frame of reference, which directs the experience away from physical, cognitive and emotional complexities involved in an established block.

The outcome of the performance, facilitated by modalities – tactility, kinaesthetics, auditory, and gesture – suggests that once cross modal connections are made (whether the performer is aware of it or not), a level of internal organization seems to take place within the performer to facilitate the performance.

(b) Sketch and Test Observation 2

Piano Duo with T.P.

Block addressed: Challenge of performing under variable conditions.

Repertoire: P.D.Q. Bach Sonata Innamorata (for piano 4 hands S. 1 + 1) in 3 movements

Type of Research: Live, on stage performance involving testing

Details:

(1) The instructions were to improvise gesture and body movements while playing the musical score as written without alteration.

(2) All performances indications and details marked on the score were precisely maintained.

(3) The performers alternated between the lower (bass / secondo), and upper (treble / primo) parts from one movement to another.

Note: This was performed publicly, and in a television documentary Beyond 2000 for Australian TV.

The Documentary Performance: During the performance, I took the lower bass part, while my partner T.P. performed the treble. I was constantly shifting body positions, crossing the hands, standing up, sitting down, and making exaggerated upper torso gestures. At one point, my partner bent forward and played the pedal with one hand while sitting on the floor and, and continued to play his lower part with the left hand turned backwards. I simultaneously stood up, walked around and completed his phrase in perfect time. The movements were from below the keys to above the keys, sliding on the keys and striking, occasionally on the side of the hands, occasionally with a flat hand, interlocking hands, without missing a beat. At one point, T.P. became carried away and improvised by playing a couple of notes with the tip of his nose. Mostly, these

movements are spontaneously and unprepared (mostly improvised). T.P. and I were not given detailed choreographic instructions or routines of what to do. We simply improvised and enjoyed ourselves in the performance.

After each performance, there were postmortem analyses, and discussion of what to retain and what to improvise. By constantly shifting, there was always a sense of instability that was essential. Memory and timing were conducted in an unstable environment, and both were attended to by maintaining the need for creative variability. In this exploration, the research agenda was never mentioned.

Similar to Sketch and Test Observation 1, resolution of difficulties was achieved through indirect means. Only brief instructions were given to us and there was no discussion on the rationale of the research. The focus was on the possibilities of the performance. Difficulties in co-ordinating expressive timing, memory and musical performance expression between the two performers were resolved through intrinsically musical solutions. This is further implemented by the use of cross modal connections between touch, gesture, tone, and paradoxical causality.

In the exploration process, "ghosts" (i.e. old habit patterns) did emerge – there were some of the physiological effects . In these cases, there would be a sketch / test and digress process, increasingly with a mentioned emphasis on the embodied conductor or causality as an organizing principle.

This case study demonstrates a performance vocabulary that occurs from translating the score to movements (primarily kinesthetic). This involved postural changes, including changes in positioning of the fingers, hands, legs and body. This case study is a test on timing and assumptions about received wisdom of correct sitting

posture, hand and finger positions, fingerings and body movements. It suggests that a synchronized relationship can be established connecting one part of the body to another (within the performer and between performers) without following into rigidly pre-defined postural sets.

Cross modal areas: tactility, kinesthetics, auditory, gesture, balance, expressive timing.

Approach to Unblocking: The exploration espoused a creative approach to unblocking because it sets up obstructions which deviate from normal practice. These substitute normal practice behavior with a mode of playful improvisation. In this approach, the apparent obstructions introduced challenge the body to keep moving without losing the musical line, yet without ever mentioning about the musical line. The obstructions are also creative because there is an element of risk introduced. The performers entered unfamiliar territory, without even being aware of it, in order to resolve familiar difficulties.

Observational Studies

(c) Sketch and Test Observation 3

Duo Pianists C.G. and M.T.

Block addressed: Challenge of performing under different performance conditions.

Repertoire: Jamaican Rhumba (2 pianos, 4 hands) by Arthur Benjamin. Boosey and Hawkes

Purpose: This is an observational case study for introducing increasingly unstable conditions to see if they hold up under different performance conditions.

Details:

(1) C.G. and M.T. were at two concert grand pianos, one 9 and 7 foot at a distance of approximately 16 feet. Visibility was confined to part of the upper torso.

(2) The instructions were to improvise gestures moving with from standing to sitting positions while playing at full speed.

(3) At unanticipated moments, Prof. Cohen would move to any one of them and dislodge them by pushing their hands down or dislodging them from the side when they were playing, moving them so that they change their positions and even become less visible to the other partner.

Note: This was for a concert performance on a CBC television documentary - City Beat (November, 1993).

The Process: The Jamaican Rhumba was performed as part of a complete concert program that included Rachmaninoff's Suite Op. 11 for two pianos. The suite was sketched and tested in an amplification of the techniques explored in the Jamaican Rhumba, with an increasing emphasis on embodied and external conductors. At initial stages of working on the performance, the duo piano partners received feedback from Cohen in terms of musical and expressive details. This was followed by a sketching process, where musical aspects were carried to the extremes (e.g. tempo, body posture). Afterwards, obstructions were introduced to challenge their capacities in dealing with contingencies during a performance.

The duo performers had to pick up cues from one another's sounds, obliging the focus on the relationship of sounds. With minimum discussion of the underlying

processes and the research agenda, aspects of balance, parts, focus, tone relationships were expressively timed. This is a demonstration of the potential of unblocking through deliberate introduction of physical blocks in the rehearsal process.

List of obstructions introduced: unanticipated interferences, reduced vision, disruption of postural set, balance and movement; disruption in touch at the keyboard. For example:

(1) Cohen pushed C.G.'s head down so that she could see her duo partner.

(2) Cohen caused M.T.'s body to shift to a new position so that M.T. was thrown out of balance.

(3) Cohen blocked vision by putting his hands across the keyboard.

This process of introducing obstructions was conducted over a period of time, with repetitions and multiple variations involving the introduction of unanticipated contingencies e.g. playing at different tempi with different expressions, etc. Unblocking was accomplished by using tactility at some points that assisted the movement and at other times counteracted it.

The emphasis was in getting the movements to be so varied that the body was obliged to focus on the sound to keep it going. The preparation was through a sense of emphasis on causality (in organizing the body) to get it as precise as possible, and then attempt to upset it. The verification was in the fact that it was maintained and that it worked (due to the sketch test and digress mode of working used in practice).

Observations: The duo performers demonstrated a high level of creative variability, in that they were capable of continuing to maintain the performance despite eminent disruptions. This creative variability probably helped resolve the block not because it was

a prescriptive mechanical exercise, but rather because it helped the performer to deal with unanticipated contingencies.

While there was a considerable amount of improvisation of gestures and body movements involved in the duo performance, certain aspects remained fixed to act as a structural reference. Over time, this offered greater creative flexibility for the performers, because it obliged them to make changes in response to contingencies.

This also suggests that, as a researcher and coach, perhaps one should not be overly concerned with how the performer played a piece of music at the initial stages. Rather, once a piece of music can be performed with reasonable accuracy, musical and technical ways of practicing / sketching the music can be introduced. Later, obstructions can be introduced to increase the performer's capacity in dealing with variabilities in a dynamic performance context.

This case study of introducing increasingly unstable conditions to see if performers hold up under different performance conditions is a demonstration of the potential of unblocking that we are aiming towards.

(d) Sketch and Test Observation 4

Duo improvisation: D.B. with Prof Cohen

Block addressed: Challenge of performing expressively.

D.B., a teenage piano student, is an expert improviser. He was, however, a poor reader and experienced great difficulty in expressive variability. D.B.'s playing was generally flat and lacking musical expression. D.B. also had great difficulty remembering music that he learned from the score.

Setting: Two concert grand pianos were placed at a distance of 18 feet with restricted visibility. D.B. did not receive any instructions from Cohen. All communication was non-verbal.

Condition: D.B. was sitting at one piano facing Prof Cohen at the other. Cohen is conducting with one hand, while improvising in duo with the student. Again, there was no discussion either before or after the session about the purpose of the study, apart from enjoying the experience of the improvisatory exchange.

Sessions were conducted over a period of three weeks (with two successive sessions per week). Durations of sessions varied from half an hour to one hour.

The Process: Improvisation began with a musical exchange in a question and answer form. Expressive gestures that would help build up the musical entente and confidence of D.B. without discussing what Cohen was aiming to help D.B. with.

As improvisation progressed, obstructions were introduced. These include:

(1) causing sudden shifts in expressive gestures from lyrical to dramatic gestural movements

(2) moving from simple suggestions at the piano (with instructions given by Cohen) to sudden virtuosic passage works which D.B. was obliged to pick up and make the appropriate shifts. During the process, Cohen was standing as D.B. was sitting at the piano bench. From time to time, Cohen moved down so that D.B. could not see him.

Expressive changes in facial expressions were used to suggest a palette of musical moods

(1) suggesting a warm, sensitive musical sense through frowning

(2) suggesting harshness through a stare or gaze

As Prof. Cohen's conducting gestures became increasingly dynamically varied (expressive gestures of what is normally called a warm phrase, cool interpretation, and facial expressions to mime certain expressive contrasts and subtleties), the student increasingly begins to improvise with greater expressively timed fluency. At certain points, Prof Cohen pulled back and allowed the improvisation to take care of its own and the improvisation continued to be expressive.

D.B. applied the same approach to the Minuet of the Beethoven Moonlight Sonata. As D.B. was playing the opening, Prof Cohen alternated between playing a phrase and conducting the student at various tempi and expressive emphasis and articulations, as he was performing it. Cohen cues D.B. into the music through dance movements, conducting, staring, and moving around. In the process, D.B. picked up the gestures and begins to vary it himself over a period of ten minutes.

In this exercise, Cohen transferred what D.B. could do relatively easily (improvise) to performing a piece of music that D.B. was obliged to read from the score. The instructions given were that D.B. had to play from the music while observing Cohen's conducting gestures. In the process, D.B. was told to "compose" his performance as if he was translating from one language to another. In this instance, D.B. was translating from the language of musical notation on the score to sounds of improvised music (the language of musical sounds).

Instead of focusing on D.B.'s blocks (e.g. listening for sensitivity of musical expression), Cohen directed D.B.'s attention towards focusing on movements, and the translation process. In using the term "translate" instead of "reading", Cohen got D.B.'s

attention away from what D.B. was blocked at (reading the score, and playing with musical expression). As soon as D.B. stopped reading, he successfully translated and "composed" his performance from the score with musical gestures and movements that automatically gave expressivity to his performance.

It is also important to note that, under normal instruction, such as explaining it, demonstrating it or obliging D.B. to remember instructions will not be helpful. But when approached in a way that is indirect, D.B. managed to play with great expressivity.

The focus is on achieving musicality through indirect means without imposing specific instructions on the learner. The observations also indicate that a paradoxical causality organizes the process through (1) non-verbal communication from Cohen to D.B. by means of conducting and through (2) musical exchange at the piano.

Summary of Observations of Case Studies

Each example was designed as a sketch test to help resolve a specific performance problem or block. Each sketch test was in preparation for a public performance. Each aimed at achieving a coherent bio-aesthetically organized solution. Each approached the issue indirectly from an unfamiliar and unstable perspective. In that sense, it was aiming at a creative rather than familiar solution. At no point was there any discussion of the mechanisms involved – nothing in terms of cognition, why a certain movement has to be performed in a certain way, etc. The idea was to make it as spontaneous as possible in an unstable environment.

These examples of sketch and test involved *obstructions* and *cross-modal synchronization.* Obstructions helped the performer seek alternatives which could help them unblock, without emphasizing the problem, or reinforcing old habit patterns. For

example, variability in the whole performing context was introduced using the embodied conductor, by introducing body movements and postural changes constantly, and by using musically based solutions to help liberate the performer from blocks. By introducing obstructions, the blocked performers were obliged to solve problems creatively by seeking solutions to overcome the obstruction. This approach deals with the problem indirectly without the performer being aware of the purpose of the process. Cross-modal synchronization, on the other hand, was used to facilitate co-ordination of the senses during performance to help the performer unblock through introducing variables (which are the obstructions or disruptions introduced). This is *paradoxical* in that synchrony was deliberately disrupted in order to establish it.

Conclusion

This chapter has described how blocks occur and suggested some potential ways to unblocking. In analyzing my personal experience, the following contributed to the block: lack of preparation; failure to memorize; the piano I was unaccustomed to using; anxiety; and competition. Overall, the blocks were induced by my immaturity at that time. The sketch and test processes shown in the four case studies were used to help establish confidence in performances and to eventually unblock. These cases provide evidence that dealing with obstructions introduced using cross-modal synchronization helps a performer unblock. Analysis of these cases indicates that strategies of unblocking can be guided by the BAMP principles. There are many viable approaches under this framework and each provides encouraging results.

Chapter 6 presents a case study that focuses on the exploratory processes involved in preparing a late arriving pianist for a public performance.

Chapter 6: Exploratory Case Study

Introduction

It was argued in Chapter 4, that musical performance blocks can be mostly effectively studied through field research. In this chapter, an example of field research is presented, an example involving a co-exploratory case. In this study, the participation of the researcher extends beyond the confines of objective observation of independent variables in isolation. Rather, examination of the direct experiences of the late arriving performer through creative musical collaboration provides the researcher an opportunity to study the development and evolution of musical performance blocks in a setting that simulates a live musical performance context.

Similar to the studies presented in the previous chapter on personal reflective case studies, the purpose of this exploratory case study is to show how multifaceted the phenomenon of musical performance blocks can be and to indicate how the intrinsic attitudes and preparative processes for musical performance can lead to blocks. This chapter also aims to relate the results of the co-exploratory case study to important elements of the bio-aesthetic approach. Primarily, this longitudinal study is intended to test selected concepts in BAMP by using a modified approach. Also, instead of applying BAMP in studying a population of professional concert artists (from which BAMP was initially developed), BAMP concepts are tested through hands-on exploration at the piano with a late arriving performer who has a number of inherent musical performance blocks.

All the approaches taken in this exploration are conducted in intrinsically musical terms. In other words, we did not follow any pre-defined methodologies, but worked primarily from the musical context, in terms of musical tone, shaping, phrasing, touch

quality, scat singing, aesthetics, from which organic physical movements are based upon. Unlike conventional research and experiments, which have a clearly pre-defined hypothesis, our working hypotheses are constantly honed and modified through empathizing with the subjective realities as experienced by the of participants, and in response to their feedback in the process. Such collaboration with late arriving performers provides a fertile opportunity for the researcher to examine the diverse causes for blocking and offers an occasion for exploration at the piano to unblock.

Research Perspective

This exploratory research – spanning 20 months, from August 2003 to April 2005 – is approached by the author from the perspective of a coach, performance analyst, and researcher. The research is an attempt to translate scientific research methodologies and those of stage exploration. In other words, this is a form of "on stage" research. The repertoire discussed in this exploratory case study was built in preparation for a graduate musical performance program audition and a public performance.

Description of Problems / Blocks of W.T.

W.T. is a late arriving adult performer. She received her undergraduate training in piano performance in a major music conservatory in China. She was one of many individuals from her institution who had accumulated a vast history of training, practice and performance that have culminated in blocks, yet demonstrated she had a strong desire to go beyond apparent limitations.

When W.T. first came to me, her playing was regimented and tense. There was tension in the postural set, often combined with involuntary movements of the head and

body. Movements were generally stiff and restricted. W.T. also used to play exclusively from the knuckles; in other words, she used to lift each individual finger high in the air and then "strike" each note. This mode of playing prevented her from getting a long phrase line, or an expressive singing tone. W.T.'s hands also had a tendency to go into a fixed position, or to reach by stretching and extensions. Most of the technical difficulties appeared to be induced by her previous training (didactogenically induced).

What is remarkable about W.T. is that she is a serious learner, passionate, and highly determined to succeed. Although this could be an asset, she was often working too hard, and worried about getting things right – sometimes at the expense of ignoring her intuition. This may work against her in the sense that when she was practicing anxiously at home, she might inadvertently reinforce some of the old habits that may lead to blocks.

With this understanding, I tried to explore different ways with W.T. to help her draw upon her inner creative resources, so that apparent blocks might be turned to creative advantage. In the research reported here, the, sketch and test process is analyzed. By helping W.T. to first sense, and later test herself and what she was doing at every phase of her preparatory work in a cross-modal way, I attempted to help W.T. explore an alternative way of working to prevent the occurrence of blocks.

Although we communicated predominantly in English in the exploratory sessions, W.T.'s communication skills in English were limited. W.T.'s native language is Mandarin, while mine is Cantonese. In some occasions, communication of abstract concepts was implemented by writing in Chinese.

Overview of Exploratory Process

W.T. was used to receiving instructions because she came from a culture that gives authority to the teacher. Thus, W.T. responded to me as a teacher (instead of researcher) from the perspective of a student. W.T. was not ready for the discussion of details and just wanted to be told what to do. This, coupled with her regimented training in the music conservatory before coming to Canada, made it difficult for her to explore creative alternatives on her own. For these reasons, at initial stages of our exploration, I had to work with W.T. from the perspective of a teacher.

W.T. had no cultural references to the bio-aesthetic paradigm. Thus, instead of explaining BAMP concepts to W.T., we simply went directly into the process of implementing the bio-aesthetic concepts. This was the process of "indirection". I delayed the bio-aesthetic sketch and test regimen. There was no discussion of concepts in BAMP or principles of creativity with W.T. at all in order to prevent her from engaging in over analysis, which could lead to paralysis. Instead, I dictated what has to be done, but always in terms of achieving a level of technical fluency (sometimes even at the expense of the cross-modal aspects as suggested by BAMP).

Most of the difficulties pointed to W.T.'s obsessive determination in getting things right. With this, her body would often tense up. Performance blocks were further exacerbated by presuppositions about teacher-student relationships that were not resolved. These needed to be gradually and effectively worked out.

In the exploratory study, I used my understanding of tactility to help W.T. This was achieved through scatting[22] the articulations and the agogic stress relationships in the melody without pitch, with which she had some initial difficulties. In the exploratory process, I attempted to test the bio-aesthetic principles and bring them into the unblocking process in a meaningful way. This is accomplished through a graduated sequence of sketches and tests. We approached unblocking through combining touch, co-ordinating gestural movements, breath rhythm, and synchronizing various sensory modalities. These were communicated mostly through tactility, and then gradually bringing in more stylistic details so that W.T. could enjoy what she was doing. At each stage of the unblocking process, we worked with an obstruction.

For the repertoire, pieces chosen were virtuosic works. These pieces were not learnt simultaneously, but explorations of all three works overlap in time. These included:

(1) Beethoven's Waldstein Sonata;

(2) J.S. Bach's Prelude and Fugue in A flat Major (from The Well-Tempered Clavier Book I); and

(3) George Gershwin's 3rd Prelude, a highly technically demanding piece.

W.T. had already studied the Waldstein Sonata for about a year before working with me. The Bach Prelude and Fugue in A flat Major, Gershwin Prelude, however, were new repertoire that we chose and began working on together.

By the time W.T. proceeded to the Liszt Tarantella (in the 14th month into our exploration), we extensively used the sketch and test approach. Gradually through the

[22] Scatting in the context of this thesis is described in terms of articulation of the tongue and lips to provide agogics and rhythmic stresses for the melody. It is a modification of the jazz scat and techniques of solfege in Indian instrumental music, in which precise syllables are used.

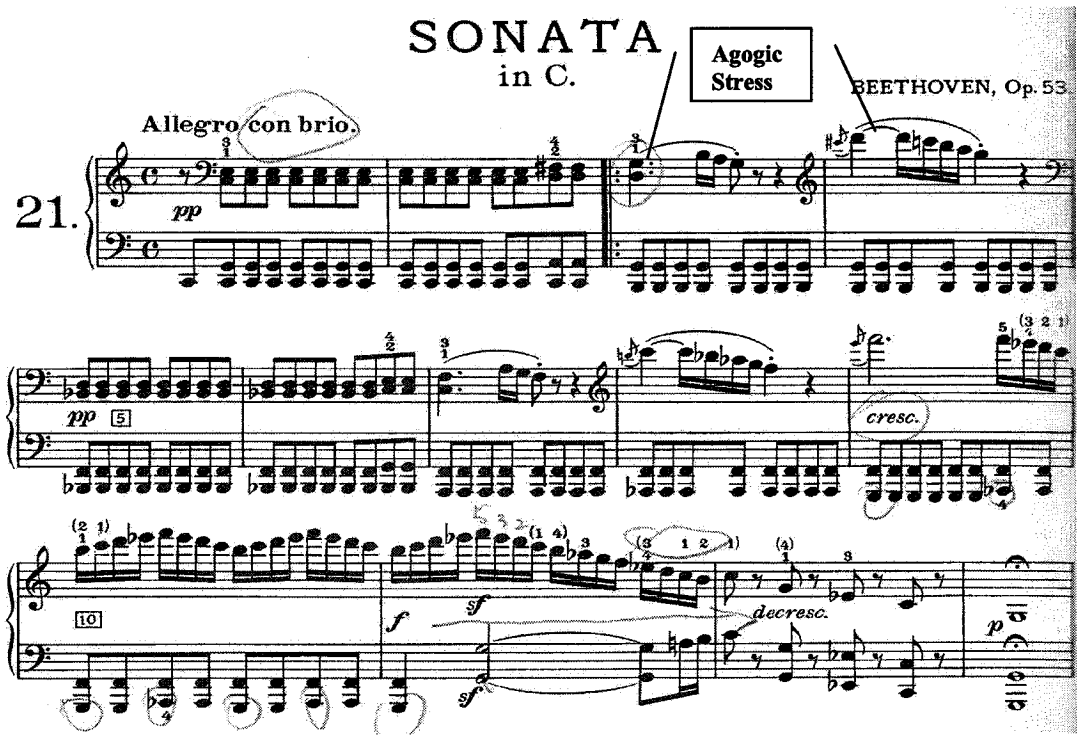
year, I helped to sensitize W.T. to become increasingly more aware of the somatic aspects of performance, so that she may connect these to the actual musical sounds.

The remainder of this chapter describes the co-exploratory case study of unblocking. Descriptions of the explorations are arranged in chronological order. In the following hands-on explorations, various stages of each exploration are highlighted. Key points are italicized for easy visual reference.

(a) Exploration 1: Towards a Bio-aesthetic Perspective

The first exploration involved the first movement of Beethoven's Waldstein Sonata in C major. W.T. was experiencing difficulties playing the left hand (LH) repeated chords (bar 1-10 LH) evenly while attempting to focus on the continuity in the musical line. Her fingers were initially flabby, and the joints would lose support as they descended into the keys. As a result, *energy was lost through the joints, creating a rhythm unevenness and diminished tone control.* It was clear that at this point, there was a definite *disruption of musical continuity* that had formed a persistent block (see example [1]).

(1) Beethoven Sonata in C Major Op. 53. Waldstein (1st movement)



from Beethoven Pianoforte Sonatas Vol. 2 (Craxton & Tovey, 1958) (p. 200)

The pp (pianissimo) indication was perceived by W.T. as weak, rather than clear and articulate. As a consequence, the mood and character of the passage were indistinct. It was clear that the distinction between weak and soft had never been drawn to her attention due to a lack of knowledge in dealing with the problem. The connection between the aesthetic and biological, however has not been well established.

The first exploration focused on establishing somatic aspects (here I focused on balancing muscle tone in the arms, wrists and fingers) with the music. It was rather difficult to communicate the feeling of these sensations, hence I played on W.T.'s hand to communicate to her at a sensory level. When W.T. tried to play repeated intervals in this new way, allowing her body to follow through the movements, this reduced flabbiness of

the fingers. As a result, the sounds emerged as clearer and focused. As soon as W.T. managed to create distinct and crisp musical tones, we proceeded to the next phase of our exploration. In this phase, we hoped to find a musical solution for W.T. that would help her generate a dynamic emotive expression in the quick, quick and bright (Allegro con Brio) passage.

We then explored various ways of *expressively shaping the musical phrases*. This was accomplished by moving off an expressively directed impulse, which W.T. picked up as a rebound sensation from the keys with a pulse, for example, moving off the bottom of the keys from the low C in the LH at the first beat of measure one, or the first beat of measure 3 and 4 which provides a continuous, "motor-like" driving momentum. Instead of emphasizing on a metronomic pulse or a series of mental abstractions of time through counting, we also experimented with the use of agogics inherent within the music to provide a dynamic, "breath-like" pulse. For instance, we kept the musical phrase moving into the agogic stress on measure 3 (RH) to the dotted quarter note, and this agogic stress then became the next point from which another breathing pulse emerged.

We discovered that the agogic stress on the RH (first beat of measure 3) helped to organize the aesthetic direction and shape of the phrase. As the lengthening of the first note allowed the body to "breathe" or to release a continuous aesthetic impulse through the phrase, a momentary lengthening of selected notes provided the necessary time for the body to co-ordinate and to synchronize through an internally derived pulse. Perceptually, this also gave a greater dimension of breadth to the overall musical structure.

Our explorations were inherently based upon musically/aesthetically based solutions (BAMP). The premise here is that when the body operates in a musically and aesthetically organized manner, many technical difficulties can be resolved almost automatically without the need for extensive practice. Another crucial aspect is for the performer to become aware of her internal sensations in the first place. Therefore, in the exploratory research with performers, I attempted to use words that direct awareness towards subjective and physical experiences, such as "feel", "sense", "experience how your hand follows its natural rhythm", etc.

Communication can also be accomplished through use of analogies, metaphors, stories, images, as well as in non-verbal forms of communication, such as touch, auditory and visual comparisons, listening to the relationship between musical voices, or any medium that draws within the palette of internal sensations and experiences of the performer. It is important to note that, effective communication is contingent upon the coach successfully empathizing into the subjective reality of the blocked performer and creatively tapping upon the performer's internal resources so as to assist her to circumvent the block without any side effects.

Our operating hypothesis was also based on the understanding that the body functions as an integrated system of inter-dependent parts. In this view, one part of the body should not operate in an antagonistic manner to another. To maximize productivity and prevent the occurrence of blocks, all parts of the body need to function in an inherently co-ordinated and synchronized way that can be subjectively experienced as one simple, tangible and unifying sensation within the performer. For instance, the sphincters and joints of the body can function in a synchronized manner, which can be

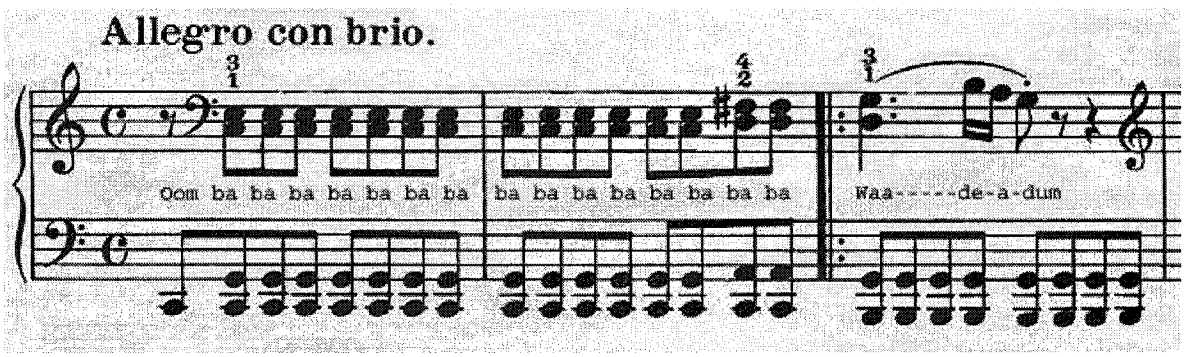
perceived as breathing through the music in a cross-modal manner, through touch, conducting, scat singing or other rhythmic movements (Cohen, 2004).

In some occasions when a block emerges from a specific part of the body (say, the LH), the other part of the body (e.g., the RH) which apparently suffers no blocks can be used as a major resource to help unblock. This is much akin to having an "internal conductor" (Cohen, 2005) which directs the rest of the body by providing a musical rhythm. Parts of the body that are not blocked can be delegated to be the internal conductor which can reliably assist parts that are temporarily blocked. If we carry this thinking further, we can shift this internal conductor from one part of the body of another, depending on the need. For instance, the lips and tongue can be put to effective use through scatting the articulations of the music. As the tongue and lips articulate the improvised syllables, they facilitate the performing body to function in a synchronized manner by taking on the role of the *"embodied conductor"*, while giving the performer a greater sense of precision in timing and articulation within the beats of a musical line.

In our explorations, we involved the non-playing parts of the body to participate and assist the parts that are involved in the actual playing. This helped simplify the performing experience. For instance, in working with W.T. on the first 3 bars of the Waldstein Sonata, we delegated our inner conductors to two aspects. First, the use of the agogic stress allows both hands to stay on the first beat of measure 3 slightly longer. This sets up a momentary inner alignment of pulse between both parts of the body, thereby providing a tangible physical reference within the performer that can be used as a reliable rhythmic guide for the passage that follows. Second, through scatting, we invented syllables to the music. In so doing, we *delegated the role of the internal conductor* to the

lips and tongue - parts that were not involved in the actual production of the music, but served to establish a consistent sense of rhythm within the body. We invented the lyrics as indicated below, and scatted all the eighth notes of the right hand in measures 1 through 3: | **Oom** ba ba ba ba ba ba ba | ba ba ba ba ba ba ba ba | **Waa** --- dee-a dum | . Note that syllables in bold indicate agogic stresses) (see example [2] below).

(2)



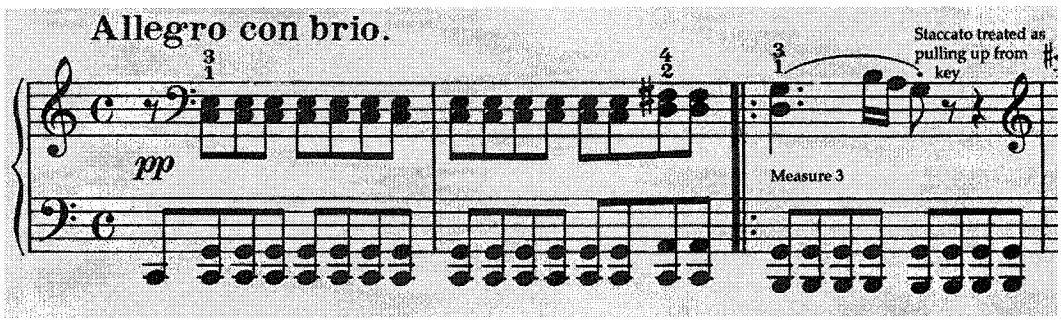
Through *creative delegation*, parts of the body that are not actively engaged in playing can take turns to become the internal conductor. In other words, various parts of the body co-operate by taking on different roles (ranging from conductor, performer, leader to follower) at various times. In sum, in helping performer unblock, we did not attempt to isolate one problem and work exclusively on the part of the body that is "responsible" for the block independent of the rest of the body, or of the musical context. In so doing, we create an awareness that further reinforces the block. In the present case, we hope to dissolve blocks by establishing an alternative path that is relevant to the practice and musical performing context (in other words, *unblocking is achieved through indirection*).

(b) Exploration 2: Delegation of Authority to a Musical Reference

I observed that problems of LH unevenness in W.T.'s playing were due to the treatment of the RH motifs. At the end of the phrase, W.T. was focusing on the end note as a short "staccato". The problem with this is that when the note is made excessively short, particularly at a fast tempo, it is likely to cause retraction, or pulling away from the keyboard. This creates a sense of insecurity and instability within the body which may cause a sense of disorientation, hence leading to a disruption in the breathing therefore upsetting the rhythm of the LH. While playing, W.T.'s fingers were not in extension. Usually, this is a result of the stiffness of the hand, which in turn leads to a sense of anticipation and fear of missing. As a response, the jaws may tighten, or other parts of the body may get retreat to a "fight or flight" mode (a mode of anticipation and fear), which further blocks the performer.

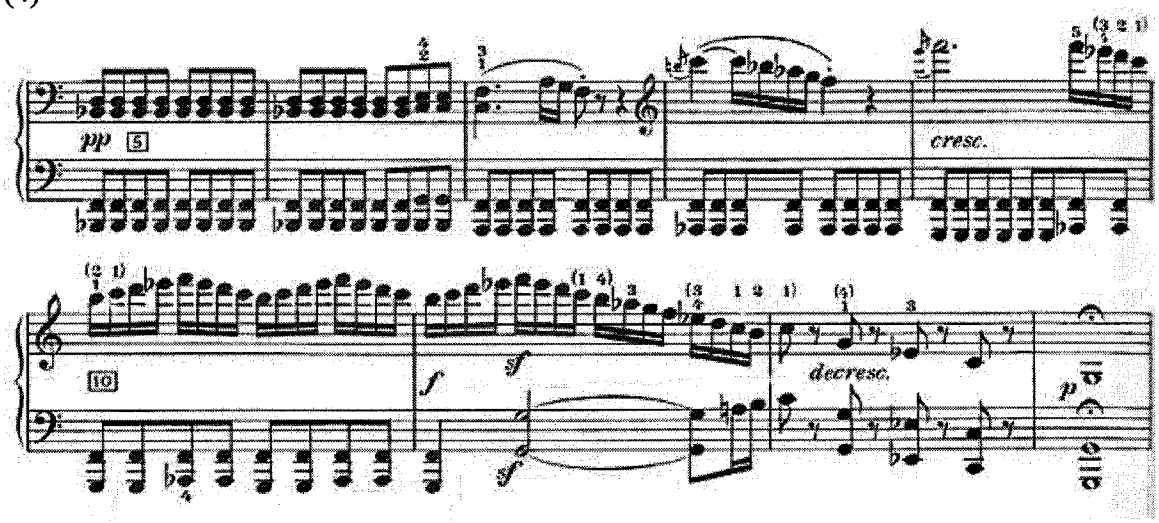
We again attempted to treat both sides of the body as a mutually interdependent, integrated system. Based upon this view, blocks occurring on one side can be traced to the other "apparently innocent" side that may not appear to be directly associated with generating the block. However, when attention is focused toward those apparently non-problematic areas, it obliges all parts of the body to operate in an inherently musical and aesthetically directed manner. In working this way, blocks in the body seem to apparently dissolve on their own. In this instance, we applied a slight agogic stress by lengthening the right hand E on the 3rd beat of the 3rd measure (see example [3] below). We then listened to the harmonization of the note E with the left hand. By following the decay of the sound of the note E and picking it up with the continuous harmony of the left hand, we created a cross harmonic relationship between the melody and the accompaniment.

(3)



In *working musically*, we established a sense of continuity within W.T.'s body, even though the note E was still relatively short. Nevertheless, this subjective feeling of continuity and stability appeared to prevent W.T. from pulling up from the keys, thereby giving her a better sense of security. We also applied this approach to measures 7, 8, and 12 and it was found to be equally useful (see example [4] below).

(4)



To emphasize, our purpose was not just to aim at the finishing note or the note that immediately follows. Rather, we attempted to prepare the thumb to glide toward the nearest position in a calm and securely-rested manner. In so doing, we attempted to *delegate the authority of playing to a reference musical pattern.* This experience of

"handing"[23] also appears to pacify hand as the thumb glides from one position to the next, hence helps to alleviate anxiety.

In this exploration, I also observed that the hand derives a greater sense of stability by keeping the center of gravity of the hand low as it shifts from one position to the next while maintaining tactility with the keys. Thus, it may be postulated that the feeling of continuity and stability reinforces the primal sensation of security. This is because when the hand is set up so that it falls within a musical pattern, it prepares the hand in advance for the entire group of notes to be played. As a result, this helps to reduce the level of apprehension in the performer

(c) Exploration 3: Cultivation of an Organic Musical Reference

In Bar 9 RH, we observed that the rhythm of the measure once again was slightly off since there was some holding of breath in the RH on the long note. That again disrupts musical flow of the RH melodic line, and also causes evenness in the LH. In our exploration, instead of following an exact metronomic rhythm, we focused on the aesthetics of the music instead. We paid great attention to the inter-relationship between motivic phrase patterns and larger phrase structures as we explored different interpretive options.

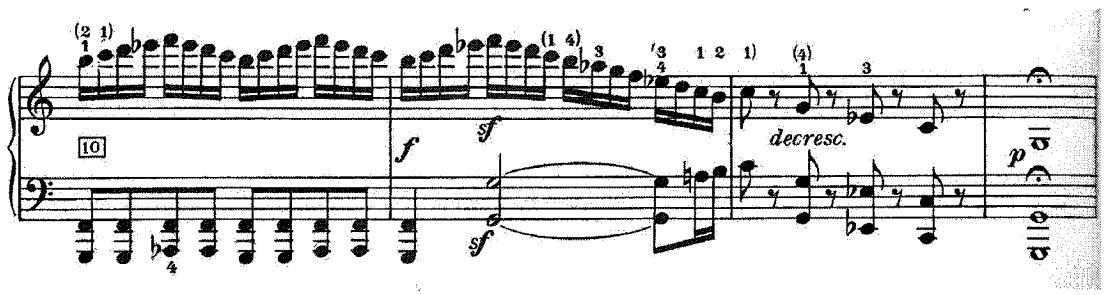
In terms of physical motion, we also explored the option of physically releasing through the long notes by listening to its decay in relation to the LH repeated intervals. Listening in the context of phrasal decay appears to assist W.T.'s body to release physical motion of the body through the phrase, including that of the LH along with the RH. We

[23] In the context of our studies, "handing" refers to how the hand glides from one musical pattern to the next in a rhythmically timed and effortless manner. This is often achieved through gliding of the thumb as the hand opens in a breathing manner (much akin to the peristaltic movements of sphincter muscles).

coined the term "physical exhalation[24]" or "breathing through" to describe the experience of this specific process. As W.T. physically exhaled, or breathed through the repeated intervals in the LH, a connection between both sides of the body was established in a musically coherent way. This in a way obliged her to follow through a physical sense of exhalation on the RH dotted half note F (first beat of measure 9). This also prevented any excessive holding which can lead to unnecessary tension.

Similarly, this approach can be applied to the 2nd beat of measure 11 at the *sforzando*, where the *sf* in the LH provides a momentous impulse that serves as a reference for physical support to help stabilize the body (see example [5] below).

(5)



This also seemed to help the RH, so that the 16th notes can be articulated with evenness and a sense of musical direction. While performers experiment with physical movements by sensing the structure through larger phrases, they may further clarify their internal physical sense of movements. In our case, for instance, instead of playing musical phrases with disconnected movement units on a measure-to-measure basis, W.T. experimented by *organizing her movements in a manner that was consistent with the phrasal structure of the music*, which may prevent her from potential blocks.

[24] In metaphoric terms, one may speak of tension in terms of releases of impulses, like the ebb and flow of the tide. When contractions and expansions are experienced organically within the body, we can metaphorically speak of it as a form of muscular "breathing".

We noted that bars 10 – 11 are very different in terms of texture, rhythm, musical shaping, aesthetic patterning, and dynamic indications from bars 12 – 13. From running 16^{th} notes (bars 10 -11) to detached 8^{th} notes in octaves with rests in between the 8^{th} notes (from bar 12 - 13), coupled with the change in dynamics from *decrescendo* to *piano*, all are likely to lead the performer to perceive a quick and sudden change in the transition from measure 11 to 12. In this case, W.T. handled the decrescendo by suddenly slowing down the tempo. This abrupt deceleration, much akin to jamming on the brakes while driving at high velocity, led to a disruption of a flowing pulse.

To maintain a steady pulse without rhythmic disruptions, I recommended W.T. to maintain a consistent level of muscle tone within the body. This provided a level of support in the body so that the expressive character of gestures generated by the body can also remain consistent. This also helped to establish within W.T.'s body a reference to help maintains a sense of rhythmic continuity between musical sections despite changes in textural patterning.

Further, in our exploration, prescriptive verbal comments were rarely given. In our collaborative work with participants, suggestions were often *communicated through non-verbal means* – such as through touch, tone, scatting, gesturing, conducting, auditory cues. The primary purpose was to awaken a level of awareness within the performer, so that she can seek her own ways of monitoring herself and arrive at solutions that best suit her needs in context with minimal interference. This level of sensitive internal monitoring might hopefully be effectively extrapolated to practice sessions, rehearsals and performances.

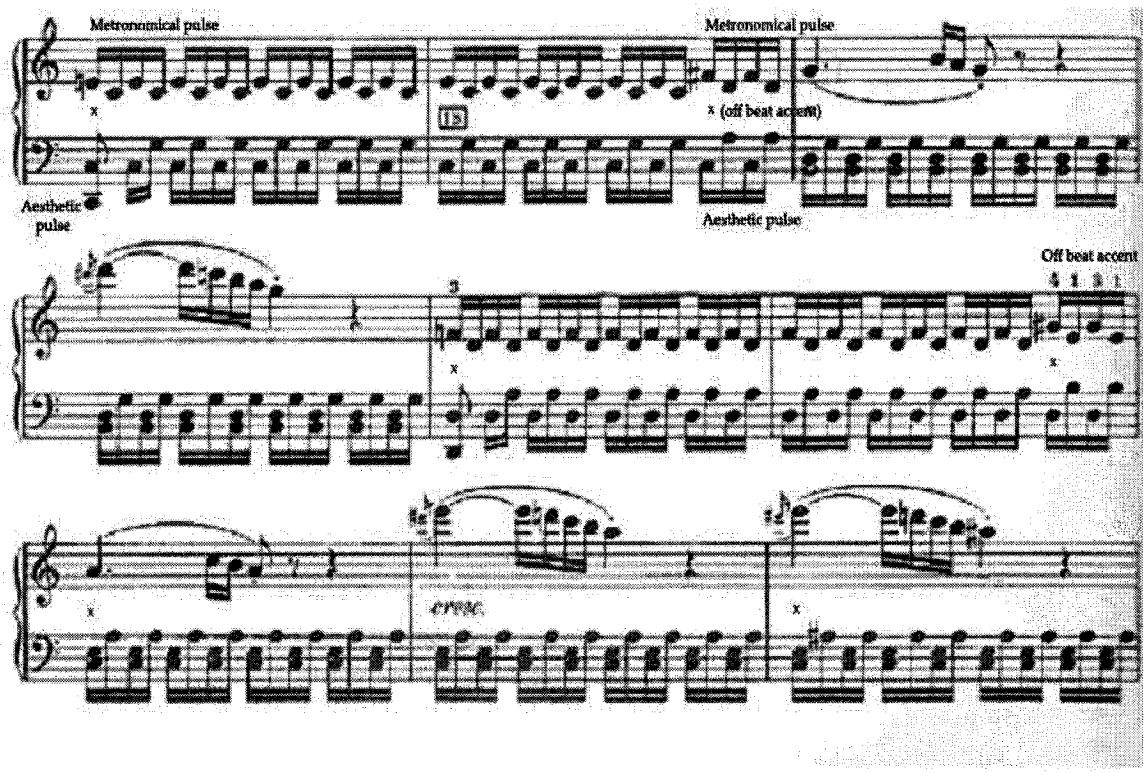
We hypothesized that cultivating an "organic sensory reference" within W.T.'s body through creative variations of the musical structure, may result in higher precision in performance. This reference may be established through synchronizing the organic rhythms of the body with the aesthetic structure of the music. For instance, a healthy, normal individual does not have to work very hard in making natural movements such as inhaling or exhaling air during breathing. It simply happens, and the body performs this activity with a regular pulse from within. Similarly, we may draw the analogy that a natural musical performance involves movements that occur naturally from within the performer. When the performer's body breathes musically along with the aesthetic shapings of the phrases inherent within the composition, it is also likely to happen by itself. In so doing, we found that the body is also more inclined to experience itself as an interconnected entity, while the music is more likely to be communicated as an integrated and seamless whole. Working from an inner physical sense that is subjective but tangibly embodied within the performer's body may also help the performer experience a level of organized awareness.

(d) Exploration 4: Sketch and Test through Tactility

In measures 15 - 16 and measures 19 - 20, W.T. over-emphasized the harmonic stresses of the RH broken thirds (see diagram below) independent of their positions in the musical context. Stresses in harmonic changes that do not lead to the G at the first beat of measure 16 are likely to create an offbeat accent. Also, as the LH bass moves on to the double notes (measure 15-16), the perception of an addition of notes is created, which may inadvertently create accents on the thumb. In our case, W.T. explained that the

accents resulted from her intention to bring out the harmonic changes in the LH. The stresses, however, when played at a fast tempo generated an erratic and broken line instead. See example (6) below. Note that in measure 15: The F# leads to the long tone G (dotted quarter note) in the next measure. Note also that there is also simultaneously a harmonic change in the bass (from measure 19 to 20). Stresses and off-beat accents occurring in the harmonic changes are indicated by X's in (6).

(6)



W.T. first attempted to play the passage by following the sounds as the harmonies gradually "opening up" into the G at the first beat of measure 16. By simply listening to the harmonies unfold, W.T. changed her perception of the experience, hence the quality of her experience also changed from that of actively trying to play the passage evenly and correctly, to that of passively letting it happen through her without expending excessive effort.

In the next phase of co-experimentation, W.T. was asked to *imagine hearing the harmonic changes dissolve into one another* (from measure 15 to 16). This was achieved after several repetitions. W.T. played with a slight expressive undulation in her hand and arm movements, as they moved across the measure. In order to ensure a gestural correlate to the musical intention was clear, I asked W.T. to feel the music causing a slight undulation in her hand (a first instance of introducing causality) – almost as if the music is happening by itself.

It was also noted that W.T. was creating involuntary stresses in measure 21. This was probably caused by the performance indication *crescendo,* which created a perception change in dynamic gradation. In an attempt to rectify this problem, we simplified the text by temporarily ignoring the *crescendo*, and focused instead on giving the musical line a shape. Then, we continued by giving the musical phrase a little momentum, and then carrying it through to a point that is felt to be more stable and safe.

In this case, when I drew W.T.'s attention away from the undesired accents, unevenness was remarkably reduced. I drew attention to W.T.'s tactile sense, and tested it on her hands, joints and shoulders to see how they were breathing (another sketch and test). It became clear at this point that rather than discussing unblocking directly, we can achieve it through indirection. Once the accents are out of the way, we then gradually reintroduced the *crescendo* without drawing attention to it, but by means of expressing the action through the synchronized movements from the joints.

It is also important to note that simplifying the music temporarily by leaving out the performance indications seemed to give the performer a greater sense of security. In addition, a gesture consistent with the intended aesthetic shape of the phrase can be used

to implement the sense of musical contour. Further, we observed that by delegating authority to the ear by observing the harmony unfold, W.T. was able to perform with greater reliability.

(e) Exploration 5: Co-ordinating through an Aesthetic Vocabulary

W.T. also found it difficult to synchronize both hands in the passage involving broken intervals (see diagram below). The major reason was that W.T. was following a metrical rhythm (a metronomic pulse) in the right hand, while the left hand was following an expressively determined beat (a musical pulse). As a consequence, the rhythms were experienced differently by each side of the body.

In this particular case, we used a *simple solution* to help W.T. unblock: getting both sides of the body to follow a common rhythm. Selective agogic lengthening of pulses was allowed to occur. Through this, the body followed the shape of the music which naturally emerged. As a consequence, W.T. experienced an opening up of the body (the body opening up at the center, causing the hands to move). In other words, there was no sense of internal conflict within the body; thus both sides of the body were guided to "speak the same inner aesthetic language."

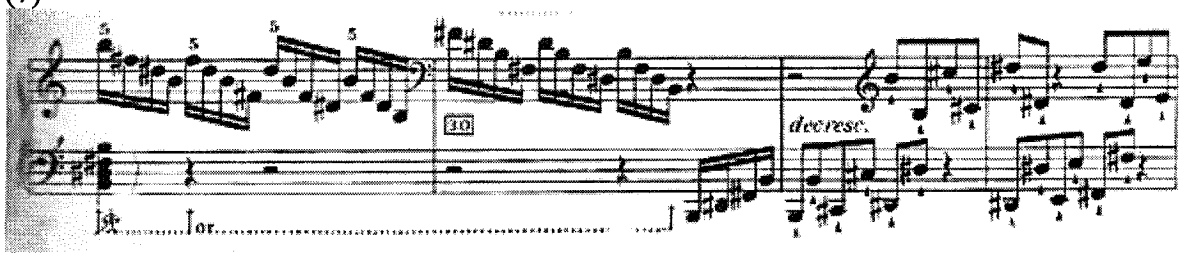
Our solution was based on one aspect of unblocking which cultivates a simpler and more unified sense of the body in relationship to the music. Simplification is achieved not by focusing on complexities of the problem, but on a unified gesture on either side of the body. For instance, the movement is coming from the center of the body over long phrases rather than note by note.

In summary, instead of overwhelming the blocked performer with complex instructions, appropriate changes can be made effectively when the body is brought to operate in a musically synchronized manner.

(f) Exploration 6: Translation of the Musical Text

An accent was created in measure 30 when the left hand "enters" on the 4th beat (see example [7] below). The visual representation of the music created a perception for W.T. that there was a sudden change from one side of the body to another. This perceived change led W.T. to "change gear" at a high speed which inadvertently creates an accent as well as a "stuttering" effect.

(7)



Similar to how we handled the block in the fourth exploration, we experimented by asking W.T. to follow through her internal listening before playing. This helped her to quiet down, as well as pre-form an aural image of a smoothly flowing phrase before she attempts the passage again. This also gave her an opportunity to reconfigure her inner sense of the aesthetic shape of the musical phrase, which in turn helped her reorganize her gestures and body movements.

I also observed that it may also be useful to translate the score from a visual image to an internal aural experience before actually playing or repeating the passage. In the process of the translation (from visual cues first to imagined sounds, and then

physical movements), the performer may have the opportunity to closely examine performance indications, harmonic relationships, musical contours, points of departure and arrival, harmonic resolutions, compositional structure, and other musical elements before actually playing it. This enables the performer to better "visualize" possible gestures that may convincing represent the musical structure instead of "diving right into" the sight-reading mode.

Along similar lines, W.T. was encouraged to experiment freely with dance-like movements while performing, e.g., rocking her shoulders from side to side while moving her upper body in a rhythmic manner can help her develop a sense of the general character and shape of the musical phrase. Working away from the instrument can be very helpful because a series of cross modal sensory experiences established away from the instrument musicalize the body without making sounds.

I hypothesized that these aesthetically-directed movements and gestures, consistent with the intrinsic character of the music, may help free the performer physically and emotionally from blocks. These unconventional movements facilitated W.T. in dislodging previously established habits that have been reinforced through practice. They movements were also helpful in cultivating the experience of engaging the entire body in response to the music. When fully internalized, these movements can later be gradually reduced. Hopefully, these unconventional physical elaborations may also help W.T. develop a better sense of memory of the music as well.

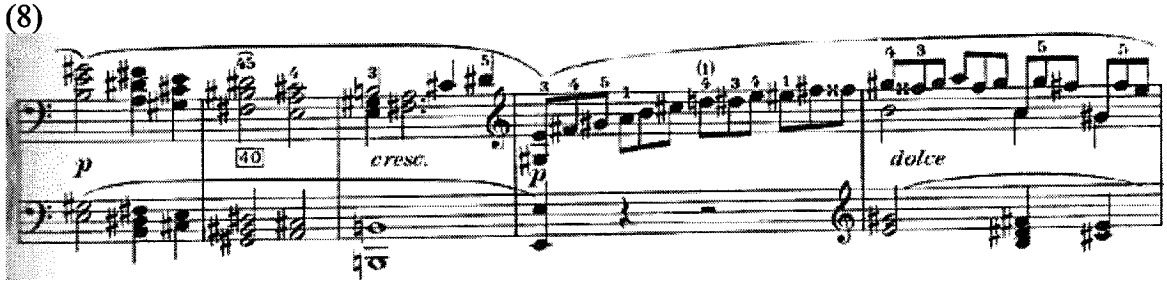
This case indicates that successful unblocking does not require manic repetition; rather, it involves either changing the perception or understanding of one's relationship to the text. Through continuous improvisations of gestures, postures, movements based on the

musical context, the performer may come up with different approaches to the instrument and new ways of using the body to convey the music. The process may often require simplification of the perception and movements, which in the end renders the creative process much more accessible and block free.

(g) Exploration 7: Potential Blocks due to Textual Indications

In measures 41-42, there are changes in texture in the RH, from the "chorale" section (the polyphonic voice movements within a harmonic context in thirds) to be heard as horizontally flowing voice movements instead of vertically placed chords (see example [8] below). W.T. stressed the downbeat which disrupted the musical flow.

(8)



W.T. noted that she experienced a sudden change from the polyphonic chorale section to the ascending chromatic passage on the first beat. At the build up to the crescendo (in measure 41) followed by the indication of "p" at measure 42 caused her hands and body to over-react by interpreting it as soft and weak. I interpreted that W.T. has not yet internalized the physical aspects of it. She understood it in one context, but she was not able to transfer it to another context. This has to be reinforced with more sketching and going into extremes.

Instead of delving on the problem directly[25], I drew W.T.'s attention to the musical aspects of the piece. I suggested that she focuses attention on the melodic line (measure 41-42) by eliminating the G# and focus on the melodic line as a continuity from the previous measure. We later layered it in as a voice.

In order to maintain a musically expressive direction in moving towards the higher register, I had W.T. observe the sound being produced, causing the previous to release. I also demonstrated on her arm the suggestion of the phrase, communicating the quality of touch through the amount of pressure of the arm and sense of motion. At this stage, however, I did not ask her to do it on her own arm yet. In the process, no verbal instructions were given. I felt it was premature and may be counterproductive to give detailed verbal or descriptions at this phase, because this might reinforce her questions of insufficiency. This is not used as a directive of what was wrong, but rather used as a guide. I did however, ask W.T. to touch my wrist, elbow and arm as I demonstrated so that she can follow their movement through the keys. This helped her get a better sense of the breathing action. This was an early step in helping her experience movement as a participant / observer.

During the course of the rest of the work gradually introduced, we moved from an exploratory to a co-exploratory position over a period of 4 months[26] by having W.T. sketch and test the work using the non-playing parts of her body to simultaneously direct the musical line, initially as an internal teacher, and finally as a delegated conductor. This

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[25] I figured out that the least effective approach would be to ask W.T. not to tense up her body, as this verbal instruction may likely cause her body to be in a state of physical suppression, where she will most likely do anything to prevent herself from tensing up, and in the process, she might inadvertently generate other blocks. A close analogy would be that of D.M. Wenger's (1994) notion of thought suppression, where subjects in a thought suppression experiment are more prone to thoughts of a white bear when prompted to avoid thinking of the animal.

[26] Crucial changes were videotaped for subsequent analysis.

may serve as a "proactive internal unblocking device" (a term coined by the author) which will prevent W.T. from repeating anything when it does not feel right.

In our co-exploratory process, I recommended W.T. to practice by tapping her fingers on her leg, so that she can derive feedback in two different ways. First, W.T. was able to focus more of her attention towards sensations without having to worry about producing the actual sounds as she works away from the keyboard. Also, since she was very much used to practicing on the keyboard, working away from the keyboard provided a change in context which could prevent the reoccurrence of blocks. Second, because W.T. practiced by tapping on her legs, she derived tactile feedback from her own touch, and sensed how she moved her arms and fingers both actively as a performer, as well as passively sensing the quality of motion as a recipient (through her legs).

Practicing by tapping the fingers on the legs may serve to provide two simultaneous references within W.T. to assist her in relating the quality of touch to the actual playing experience, from which she could make micro-adjustments to refine her quality of touch. Working this way may also develop within the performer a keen level of combined sensory and aesthetic awareness. For instance, in the first movement of Beethoven's Waldstein Sonata, the aesthetic impulse was experienced by W.T. as a "light off-beat bouncy pulse". This aesthetic impulse helped her unblock by re-organizing her body in relation to the music in terms of a simple yet rhythmic and concrete way. This rhythm can be experienced within her body, and is also highly specific to the musical expression.

The exploration of the Beethoven Waldstein Sonata with W.T. provides the ground work for future explorations into works of different genres, such as J.S. Bach's Prelude in A flat Major (from W.T.C. Book I), and George Gershwin's 3rd Prelude.

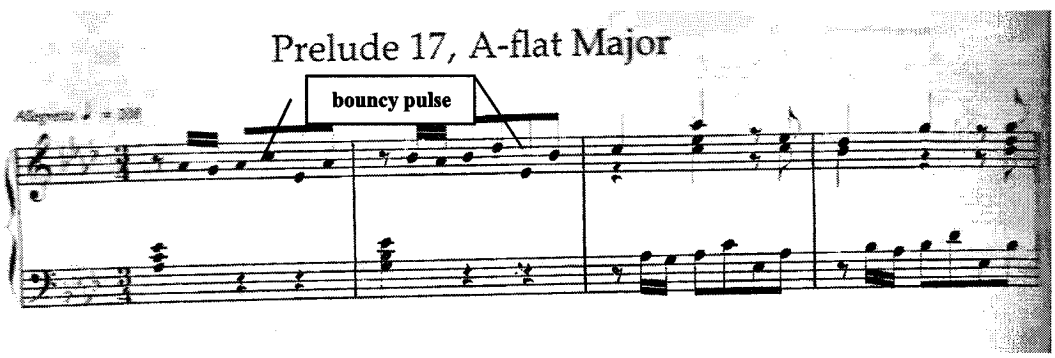
Case Study 2: J.S. Bach Prelude and Fugue in A flat Major (Book 1)

A two-hour session was conducted on a weekly basis in the co-exploration involving J.S. Bach Prelude and Fugue in A flat Major (Book 1), which spanned over a three-week period in January 2005.

Exploratory work was preceded by an initial read through in one of our earlier sessions together. The piece was revised ten months later for detailed study.

W.T. managed to play through the piece reliably from memory. Her articulation, however was sluggish, undefined and with little variation. In order to get a crisper touch, we initially experimented with a detached articulation by applying a "bouncy pulse" to her playing by moving off the second beat, which was similar to what we did in the first movement of the Waldstein Sonata. W.T. seemed to grasp the sense well, and managed to eliminate the stickiness almost right away. We reinforced the crispy touch as we scatted along (see example [9] below).

(9)



(from J.S. Bach The Well-Tempered Clavier Book I (Dover Edition, 1983) (p.60)

In the following week, when W.T. played the Prelude, she seemed to have overdone the "bouncy pulse", since she was pulling her right hand up into the air at the off-beats. This created a sense of instability which was evident in occasionally missed notes and rhythmic unevenness. In order to help W.T. experience a more "grounded" feeling as she was playing, I had her shape the articulation with the phrase accompanied by lip and tongue articulations. Movements were arranged around a phrase line, and the stabilizing factor was the accompanying scatting of the articulations.

In our third and final session, W.T. seemed to have securely reinforced the passage. To layer in the musical pulse with a dance-like character, I suggested W.T. to feel an upward bouncy pulse as her arms were falling into the keys to complete the musical phrase. This *paradox of "falling up"* presented an image which combined the sense of how the musical line falls within a contour, while the fingers bounced off the keys in a crisp manner.

This simple metaphor simplifies the process for the performer but avoiding complex detailed descriptions that can be confusing. In response to this bio-aesthetic metaphor, W.T. intuitively released her fingers to generate an upward bounce, instead of retracting from the keys stiffly which would otherwise inhibit a flowing movement. This new sensation apparently served to provide balance and stability while infusing the music with an up-lifting character, while preserving the integrity of the phrasal structure.

The selection of findings of this case study reveals that the use of metaphors and images, as proposed by Cohen's BAMP, and that may occasionally present paradoxical contrasts, can be effective non-verbal cues to facilitate communication of a sensory image. Images and metaphors may be more precise cues than instruction as they serve to

inspire the performer by fueling the imagination. In the process of picking up subtle meanings implied by the cue, the performer is granted the creative freedom to elaborate upon and play with the implicit meanings within these non-verbal cues to generate variants, from which one may arrive at a personalized solution towards unblocking.

It must be emphasized that during these explorations, there was no reference to methodological issues or received authority. Rather, our co-exploratory processes were much akin to a form of "self-teaching" where the individual is prompted to explore and invent options, manipulate the variables and make creative decisions along the way to determine what is viable based upon her subjective perceptions and experiences. Rather than compromising the performer's musical vision, these approaches act as a non-intrusive way of facilitating the process of unblocking.

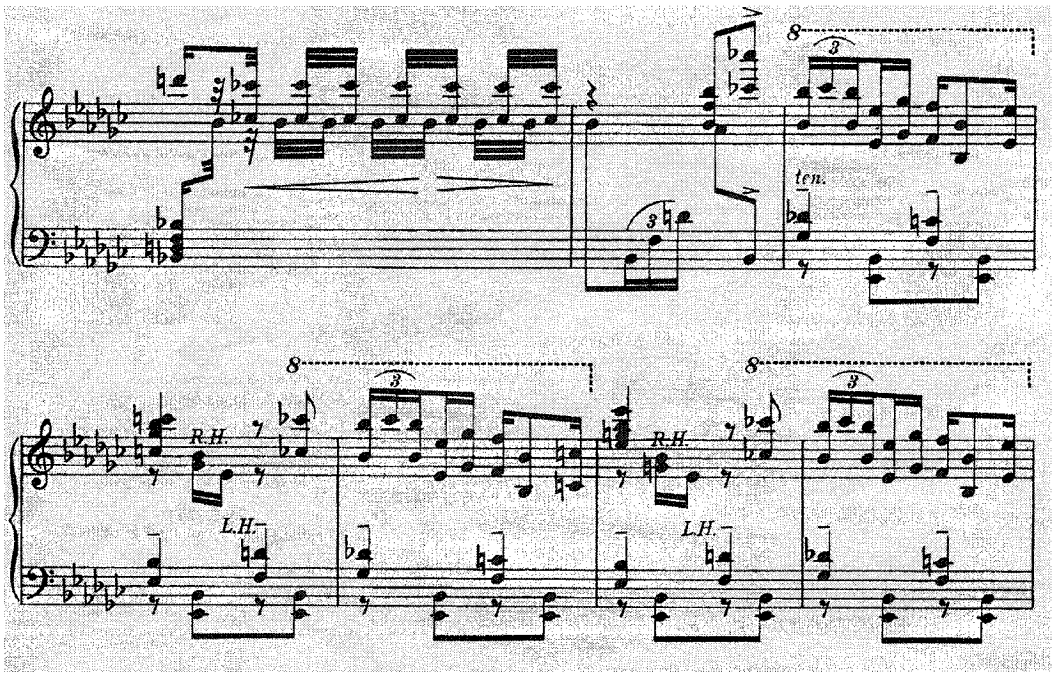
Lastly, findings suggest that unblocking is a dynamically interactive and constantly evolving process that generally unfolds over a period of time which involve a process of continual verification involving preparation, performance, post-performance analyses, reflection and testing. For example, while W.T. seemed to be able to extricate herself from a particular block when prompted with musical or non-verbal cues, many uncertainties, however, may still prevail regarding what aspects of the experience had not been fully internalized. As a consequence, the process of unblocking requires constant honing and refinement at every step of the way.

Case Study 3: George Gershwin 3rd Prelude

(a) Observation and Findings

The Gershwin Prelude was introduced in our explorations because it has a jazz inspired rhythm that is unfamiliar to W.T. I felt it was essential that an obstruction be introduced at this point. My predictions turn out to be correct despite the fact that the notated rhythm seemed innocent enough, W.T. had great difficulty at first being able to articulate in the style appropriate for the genre. Typically she became obsessive with getting the brilliant octaves correctly and in time (see example [10]). Her right hand would stiffen at the tremolo passage which leads into the theme. Her pedaling also blurred the passage and contributed to rhythmic insecurity.

(10)



from George Gershwin Preludes for Piano Chappell Authentic Edition (p.12)

Through a process of exploration and experimentation, W.T. and I continued to test our current assumptions, falsify and discard some options, explore, experiment with and modify new discoveries in an effort to realize immediate intentions by expanding upon the apparent limits of a bio-aesthetic approach. Adopting BAMP not only helps to liberate W.T.'s potential in terms of her individual musical and aesthetic perceptions, her physical organization, and interpretation insights, but it also encourages the process of self discovery and artistic growth where W.T. becomes capable of working from within her subjective reality. Ultimately, this approach will provide W.T. the opportunity to develop her artistic identity as a performer.

W.T. admitted that she could not grasp Gershwin's style. She felt intimidated by the technical demands of the particular passage. Her body seemed to literally freeze into a pose that reminded me of the stiff figures of ancient Egyptian sculptures and paintings. She reverted at this point to attempting to solve the problem through mechanical practice and sheer diligence. As a consequence, her practice became counterproductive, resurrecting her fears and uncertainties from one repetition to the next.

The obstruction I introduced could easily have gotten out of hand, and the Gershwin Prelude would almost certainly have descended into a full scale performance block. Constant repetitive practice without testing not only became counter-productive, the revival of her old ways of practice also became evident. It was clear that an emerging performance block was manifesting itself. An important point here is that when one's musical perceptions are reinforced in one negatively focused way, the interpretation is likely to become increasingly constrained with each repetition. When inspiration is no longer possible, apathy is likely to kick in.

Treating the musical passage (see first measure in [12]) as a melody provided a model for the hand to experience a feeling of movement that is smooth and without extension, which can be integrated into the actual playing of the octave passage at later stages. As W.T. was experimenting with this new way of playing with her right hand, I also recommended her to test the joints of her playing (right) arm with her left hand, simply by observing and sensing how it feels like when the arm and joints are flexible or otherwise. This process involved participation of her left hand in checking the right hand, where W.T. could derive both sensory and kinaesthetic feedback from within herself. When thoroughly reinforced, this feedback can become her internal teacher which guides her during practice.

The rationale for working in this manner was multi-dimensional. First, I helped W.T. work into the stereotypical jazz movements gradually (instead of directly into it) by having her *experiment with options and test her body.* W.T. immediately picked up the sense and began to swing to the rhythm. This established an internal experiential reference that was tangible and repeatable, and also prompted her to come up with creative solutions that were relevant to the style of the music to help the body. I wanted to help W.T. get back a sense of familiarity of knowing what to do.

The introduction of the jazz body increased her awareness, and interest in creative experimentation and decision making. All of which are essential to establish a mode of practice that is less likely to induce potential blocks.

In the exploration involving the Gershwin Prelude, I purposely initiated an obstruction to see whether a block would emerge. And as predicted, it did. I did not, however, allow the block to continue for any length of time. An alternative is set up

matters so that the block is resolved in a bio-aesthetically way. This clearly suggests that blocks can be eliminated or reduced through a cognitively focused re-structuring of the performer's biological and aesthetic resources.

In the process of restructuring, I began by having W.T. treat the musical passage as a melody. This provided a model for the hand to experience a feeling of movement that was smooth and without extension, which could be integrated to the actual playing of the octave passage at later stages. We also explored by changing the position of the hands, from the normal "classical" hand position of curved fingers to that of having the fingers lay flat on the keys so that there are no extension. The flat finger position provided greater support in the palms and fingers. I also got W.T. to dance by getting her body in motion. The image I had in mind was that, when we turn the sound off, we can almost hear the music through the movements of the body. These alternatives helped W.T.'s body to sense and feel, so that she could move through the piece with greater security.

As W.T. was experimenting with this new way of playing, I also recommended her to test the joints of her playing (right) arm with her left hand through touch, as well as by observing and sensing how it felt when the arm and joints were flexible or otherwise. This process involved participation of her left hand in checking the right hand, where W.T. could derive both sensory and kinaesthetic feedback from within herself. When thoroughly reinforced, this feedback can become her internal teacher which may act as a guide during practice that can prevent blocking.

(b) Emergent Hypotheses

This section outlines and emphasizes major conclusions drawn from the exploratory case study presented above. These can help researchers and artists to deal with performance blocks involved such aspects as: working biologically, the simplification/externalization process, externalization of expressive gestures, visual representation, engagement of non-sounding modalities, musical context, and expressive command. It must be emphasized that these assumptions are based on the bio-aesthetic dimension of the musical performance.

The initial discovery was the importance of establishing an alternative to W.T.'s customary way of approaching the question of practice. In the co-exploration, musical and technical difficulties were resolved by indirection, particularly in the use of images, paradoxes, and introducing unfamiliar approaches to the keyboard. For example, in the performance of the octaves in the Gershwin Prelude, instead of focusing on how the octaves should be played, we introduced an entirely different approach to the passage; instead of playing it brilliantly, we perceived it differently by playing it lyrically. In the unblocking process, it also became necessary to introduce difficulties or obstructions at each phase in order to help internalize the necessary confidence that comes with knowledge that one is already capable of overcoming the difficulty.

(i) Working Biologically

In order to facilitate W.T.'s musical intentions and to help her overcome both real and potential blocks we used intrinsically musical ways that did not even touch on the question of octaves. Biologically, through expressive touching of the hand and

examination of the joints - in terms of how they move, how they bounce off from the keys, we established within W.T. a new physical relationship to the musical passage. We brought it down to the relationship between aesthetic attention and physical actualization. In short, we brought awareness to her body.

By having W.T. practice to the expressively directed timing of the movements, we used varied expressive approaches to movement that avoids excessive repetition, particularly when there is a tendency to become obsessive about it.

Additionally, by directing W.T.'s attention toward her internal kinesthetic sense, she became better able to discern movements that are likely to bring about flow, and those that will cause her to freeze. With appropriate re-enforcement, she gradually learned to make appropriate physical adjustments that help her realize her aurally-directed musical intentions.

(ii) Simplification

In order to work around a problem that had been reinforced through repeated practice, I recommended W.T. to simplify the passage by sketching. Through simplification, we hoped to alleviate her burden of having to get all the notes "correctly" in tempo. In the process of introducing variations in her practice, I also hoped to communicate the message to W.T. that it is not necessary to push herself to play everything perfectly in the "performance mode" right away during practice, and that it is acceptable to make mistakes in the process of searching for a musically viable alternative.

A corollary to our working assumption was to invite errors into the paradigm so that we have the opportunity to overcome them. Mistakes and errors are essential to the

testing process. They become points of departure which require feedback rather than a mark of one's insufficiency. An error understood in these terms becomes an opportunity to turn blocks to creative advantage.

In this view, mistakes open up possibilities for the performer to experiment with possible options, thereby allowing us to exercise our creativity. This perspective presents a different reality, where we no longer need to avoid mistakes, or fear them, as mistakes are no longer associated with negative connotations. The new meaning associated with mistakes is now altogether divorced from prior notions of comparison, criticism, disappointment, disapproval, failure, incompetence, judgment, reprimand, punishment, or condemnation. When harnessed with a positive attitude and insight, mistakes can be turned into windows of opportunity for us to exercise our creativity.

While W.T. seemed to accept this new perspective, it was not until she became comfortable with it that it became possible for her to transfer the new sense of her body from one context to another. She was no longer fearful of making a mistake.

(iii) Visual Representation

An important aspect of W.T.'s block was familiar to me. Her reliance on the music score was similar to my own, and, specifically, her physiological disposition was most revealing. She stared at the text, her head tilted forward, her neck tense and arched forward, her lower jaw clenched, shoulder tight. There was also muscular tension, while her breath was clearly held, and body fixed. In BAMP terms, W.T. was inhibiting her newly acquired embodied conductor from functioning properly. In short, W.T. was physically "frozen" in terms of her postural set.

W.T.'s posture is also reminiscent of my own experience – it was clearly impossible for her to reorganize what she read from the text into expressive movement physiologically. In BAMP terms, the analogy is highly instructive in that it would be that of a conductor staring at his score in a fixed position while conducting. This fixed position clearly communicated her own discomfort rather than a musical experience.

I diverted W.T.'s attention to the keys at the keyboard and mentioned that Chopin used to say, "I hear through my fingers" (Eigeldinger, 1986, p. 14). I asked her to begin to "see with her fingers", so she played through a form of cross modal synchrony (Cohen, 2005, submitted). To further clarify the cross sensory connections, I had W.T. first look at the music as expressive patterns under her hands rather than single note. I then had her place her hands on the key. After that, we proceeded from the text to unfolding patterns – i.e. from static representation of the score to the experience that is in movement. In the BAMP sense, I got W.T. off the dependence on the musical representation of the score.

We then followed systematically from the previous through to the second passage by having her observe her hand unfolding, then, as we went through the sketch and test process, we shaped each passage into a complete musical statement (each with a beginning, middle and end) without a discussion initially of style or technique. Once that was established, I asked W.T. to feel as if the sound of the musical passage caused her hand and fingers to move through the patterns. Interspersed between each one of these steps, she was asked to close her eyes so that she could sense the musical through her fingers.

The process described above involves the BAMP sequence of sketch / test and digress. It was clear that blocks induced by the score were due to the textual representation rather than technical difficulty. In the exploration process, we introduced aspects that reinforced the actual translation process (from written notation to musical sounds) and reinforced testing memory of hands through visual, audible, and expressive gestures. These were conducted with the testing of biological responses such as breath rhythm of joints without drawing attention to the details. We released any tension in the joints through touch.

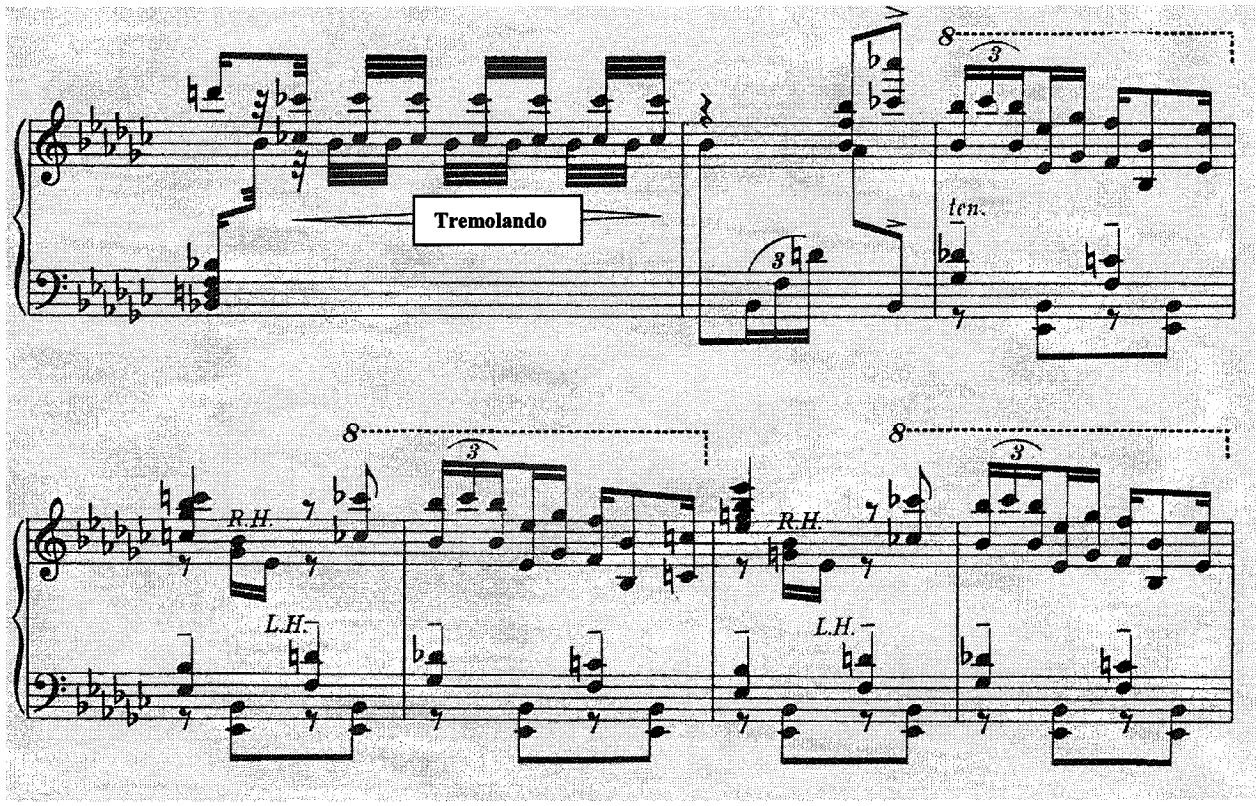
When the work had been fully established, we passed the responsibility to her delegated conductor. In other words, W.T. tested her body by systematically going through the music without either positive or negative discussion. We simply checked by sketch and test. By going through the aesthetic, tactile modes of sensing, a process of translation from the musical notation to sounds occurred (instead of reading the notes from the printed page). Once this is accomplished, W.T. "composed" her performance.

In terms of W.T.'s difficulty to memorize score, we approached this through digression. As a result, W.T. was able to not only enjoy the process and took part in it, but also to reduce inhibiting tensions without instructions that focused on her block.

The assumption that the score is the actual music without translating it into bio-aesthetic movement can contribute to the formation of performance blocks. W.T. seemed to associate the specific visual representation of the passage in Gershwin's Prelude with the concept of "tremolando" (see example 11). This immediately suggested a level of technical difficulty which is unnerving, particularly for an individual with small hands.

The thought of having to negotiate leaps at high speed as the hand remains in extension for almost a page inevitably will induce anxiety and the fear of missing.

(11)



(iv) Externalization of Gestures and Movements

W.T.'s hands were barely able to place an octave. Instead of having her stretch, which can create tension, we set up an alternative by reorganizing her biological disposition so that the hands were flat on the keyboard, with the arms hanging low and pivoting at the palms, to create a natural extension. This gave her a totally different sensation. Rather than commenting on her apparent limitation, or to intimidate her, I helped readjust the hand so that she was able to achieve a measure of natural extension rather than stretch. In this instance, we did not approach W.T.'s difficulty with any

preconceived notions, such as correctness of hand positions, or simply accepting that W.T.'s hands were small. Instead, I sensed what W.T. was going through by translating musical notation into a vocabulary of movement in the hands, i.e., a vocabulary that senses the most efficient way of moving across from one passage to the next. These movements appear to be effectively in reducing the feeling of stretch by replacing it with a looser extension of wrist and upper arm joints.

Another important correlate to the externalization of gestures is the acquisition of a clearly defined sensory reference of one's musical intention. This provides a cross-modal reference contingent on expressively timed movements. This interwoven context enhances elaboration (Hashtroudi, 1983; Segalowitz, Cohen, Chan & Prieur, 2001) and facilitates memory[27] by means of the synchronization of multiple senses.

In these explorations with W.T., I found that W.T. had acquired a constellation of biological, aesthetic and cognitive performance blocks. Most of these blocks were didactogenically induced (i.e. induced by teaching). These included:

(1) W.T's lack of knowledge in how to translate the musical score to bio-aesthetic movements;

(2) Physical tension and strain in the body during practice and performance;

(3) Her perception of her physical limitations; and

(4) Her determination to succeed led to constant forcing in technique that compounded the problem.

[27] This multiple sensory approach may also serve as a memory reinforcement strategy for W.T. Since movements and associated actions are encoded in multiple sensory pathways, they may be reinforced through more diverse elaborative networks which serve as a safeguard backup for memory.

All these blocks were masked by the fact that W.T. could get through the pieces with reasonable continuity despite missing beats, involuntary stresses, rhythmic inconsistencies, occasional wrong notes, and physical strain. Although the blocks did not disrupt the flow of the performance, they inhibited W.T. from moving to another level as an artist. As a teacher, I helped W.T. resolve her issues through BAMP, and in the process blocks were gradually resolved.

Lastly, it is important to note that in the exploration process, attention was focused on W.T.'s experience as a performer, instead of on the question of blocks. We examined the constellation of blocks which would otherwise not be evident. As we began to work by exploring different pieces of music of different periods and genres, it became clear that there was a difference between her cognitive and biological organizations when she was blocked and when she was unblocked.

When unblocking was achieved through virtuosic works – Beethoven's Waldstein Sonata, J.S. Bach's Prelude and Fugue in A flat Major (from The Well-Tempered Clavier Book I), and George Gershwin's 3rd Prelude and the Liszt Tarantella – it was found that unblocking was not confined to these pieces of music in various styles and genres. Rather, W.T. had learnt through the process and had developed a sense of the body when it was working and when it was not. In other words, the unblocking process is cumulative and transferable.

Most significant in this case study was that, towards the end of our exploration sessions, W.T. was now able to repeat passages in pieces which she had previously been unblocked, including the Gershwin Prelude and the Liszt Tarantella (a piece she learned after the Gershwin). She was also able to repeat passages with spontaneous variability

while preserving musical coherence. This was evidently a measure of the unblocking process at work.

Conclusion

This chapter has demonstrated the complex nature of musical performance blocks and has indicated some sources of blocks. The case study presented in this chapter demonstrates how one can creatively explore the late arriver's subjective experiences of blocks through an exploratory approach based on the premises of BAMP. This research not only allows the researcher to co-participate in the exploratory process simultaneously as experimenter and participant, but it also enables the study of the performer's direct musical experience.

An examination of the late arriver's blocking experience by acknowledging her subjective realities can provide a better handle for researchers to understand how these blocks can be specific to musical and performance contexts, and to the unique background and experiences of the individual. The results of this exploratory case study suggest how BAMP principles provide clues for possible means of unblocking. The case study also provides encouraging evidence about the strength of BAMP in addressing the issue of musical performance blocks in a late arriving pianist, not through formulaic recipes but through strategies specifically adapted to the unique needs of the individual and musical context.

The next chapter further explores the nature of musical performance with the presentation of the result from interview studies involving three late arriving musicians.

Chapter 7: Interview Studies

Introduction

Chapters 5 and 6 explored possible causes and rectification of musical performance blocks, and tested the effectiveness of BAMP as an investigative tool for studying musical performance blocks. In this chapter, we will present the results of the interview studies. These interview studies, based upon a structured questionnaire (see Appendices 1 and 2), are intended to illustrate global problems that may enter into the formation and development of blocks, and may serve to provide evidence regarding the diverse nature of blocks, and how blocks may enter into a musical performer's developmental process and metastasize to other forms. For the current study, three participants were recruited for the interview: A.L., N.N., and D.C.

Retrospective accounts of interviewees' prior experiences can by no means provide definitive accounts of the entire process of block formation. In the process of examining the life stories of professional performers, however, I would hope to derive a better understanding of the causes of blocks as seen through the performing musician's perspective and in terms of how the performers themselves attempt to articulate their highly complex and subjective musical experiences through the use of ordinary language.

Due to the dynamic nature of musical performance blocks, a rigidly pre-defined interview structure will be inadequate for revealing the unique experiences pertinent to the generation of performance blocks. A special effort was made, therefore, to conduct these interviews in a dynamic manner that is, by adapting the sequence of questions to the way the interview unfolded (please see Appendix 2). It was hoped that in this way it would be possible to address the unique issues raised by each individual in terms of the

specific nature of that person's experiences that are likely to have generated blocks. For this reason, many of the questions posed in these interviews were developed and structured in real-time, and in a manner consistent with the direction of the answers provided by interviewees. A series of general questions was posed, including background in musical training, methodology encountered in early phases of musical development, level of involvement in musical performance, specific difficulties encountered in their musical careers, and strategies interviewees might have employed to extricate themselves from blocks. Complementary to these interviews, participants are also requested to fill in a written questionnaire. (Please see Appendix 1).

Similar to the chapters on personal reflective case study and explorative study to unblocking, this chapter on interview studies will examine the applicability of the BAMP approach in exploring musical performance blocks.

General Observation

As will emerge from the account before, the results of the interview sessions with three professional pianists revealed the following themes:

(1) Performance blocks are established, reinforced and maintained over time and successive performances. In the process, blocks can be didactogenically-induced and reinforced in practice, rehearsal, performance and post-performance commentary.

(2) Competition and critical evaluation of one's performance lead to blocks.

(3) Fear, distraction, and suppression of unwanted thoughts in anticipation of a performance, during performance and in post-performance analyses can establish or aggravate an existing block.

(4) Blocks may arise because of infrequent opportunities to perform publicly. As a consequence, there may be a lack of consistent practice and rehearsals.

The remainder of this chapter examines how inappropriate pedagogical approaches, competition, fear and distraction, and infrequent performance may lead to block by presenting and describing the experiences of A.L., N.N., and D.C. Issues such as the effect of support group and critical reviews are not covered in this interview study.

Didactogenic induced blocks

The interviews showed that inappropriate pedagogical approaches to the issues of blocks and a lack of sensitivity of the teacher to the individual needs of the student can lead to blocks.

Teachers of A.L., N.N., and D.C. were, for the most part, renowned teachers from prestigious musical institutions, with a track record of successfully grooming concert pianists and champions for international competitions. However, these teachers appeared, according to the interviewees accounts, to be unable to help their students resolve even fundamental musical and technical problems. They only offered formula solutions that the student was expected to accept and integrate into practice and performance. Because of this, they were unable to empathize with the difficulties students were encountering. Two participants, for example, mentioned that they were given technical exercises, under the assumption that these would help them resolve their technical problems. These, for the most part, were standard directives to practice scales, repetitive exercises, e.g., Hannon and Pischna studies which are supposed to develop dexterity and endurance but are never related to a musical context. In BAMP, a musical scale is understood as a melodic pattern that is expressed within the context of a specific musical idea. Although

this seems obvious, the interviews showed that these fundamental issues of the relationship of exercises to performance in different musical contexts were simply not attended to by the participants' teachers. In addition, these exercises did not address issues such as translating the score, the cognitive relationship in the integration of the body with the context and the poetic sensitivity that are intimately linked with the question of performance, style, and performance practice.

When the learners encountered practice blocks or difficulties, the teachers invariably attributed these limitations to the part of the student. These included lack of knowledge and experience, co-ordination skills and lack of talent. For example, one of the participants questioned his teacher, "*How do you know this*?" about a piece, and the response was *"that's why you are sitting there, and I am sitting here*!" This clear "power trip" establishes an atmosphere conducive to creating blocks because it reduces the issues to the question of pedagogical philosophy and attitude, and most significantly, the inferior status of the student. In its extreme form, this establishes an authoritarian attitude in which the student is expected to follow instructions and not to ask too many questions. This is reminiscent of the case of W.T., as well as my personal experience.

In an authoritarian learning environment, the student is made to feel inadequate and vulnerable, where asking simple questions is like admitting stupidity. When reinforced, the student invariably stops asking questions. As D.C. remarked, *"At that time, I didn't ask. I guess because I felt bad already, that's why I didn't ask."* As a consequence, students are deterred from further asking questions.

The effects of this kind of teaching in one's early experiences are likely to set the stage for the formation of performance blocks. As a child, A.L. became fearful because

her teacher used to scream at her for not practicing properly. These intimidating behaviors reinforced a sense of fear and pain within the student by creating a level of anticipation for humiliation, which is disruptive and unhealthy. The condescending manner and constant clicking sounds of disapproval made by A.L.'s teacher further increased her nervousness and fearfulness about performing. A.L.'s comment was instructive, *"My teacher made me feel nervous."* She added, *"This is probably why, in the atmosphere of a piano lesson, I always play very poorly."*

An over lenient approach, where anything goes, can be as damaging as a misguided authoritarian approach. In both cases, the student is denied the possibility of genuine creative play. On one hand, the student has been programmed to act as an automaton in the formative phase, and on the other, she is programmed to develop unrealistic expectations about musical performance without adequate preparation. In "pedagogical cloning"[28], the teacher falsely believes that grooming a student involves training her to play as "perfectly" as the teacher envisions it. To fulfill this goal, some teachers impose their technical approaches and musical interpretations upon their students.

In the interview, it became apparent that A.L. was once a product of pedagogical cloning. A.L. explained that her first teacher was highly selective in choosing her students. She would only accept young beginners who were "quick learners" and were therefore considered musically gifted. Since the formative stages, students are taught to mimic every movement, every nuance until they are fully internalized. After years of

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[28] "Pedagogical cloning" is a term coined by the author, referring to the phenomenon of the music teacher imposing their aesthetic values and performance interpretations upon their students. In the process, students may play with exceptional expressivity and refinement, however, performances are "cloned" -- copies of the teacher's vision -- rather than a manifestation of the student's creativity.

insistent molding and reinforcement, the students' playing gradually revealed a certain degree of technical and musical refinement. In this regard, A.L.'s teacher expected her students to become perfect imitators. The irony with pedagogical cloning, however, is that the students lost whatever musical individuality they may have demonstrated at their audition for acceptance by the teacher. Their playing may be beautiful, but it is difficult to tell one from another.

Despite the teachers' focused efforts in cultivating certain essential aspects to music in her students' performances—such as the development of musical sensitivity, tone, touch, colors, phrasing, rhythm, balance, memory, and expressive nuances in her students, and may have achieved a degree of success—it is apparent that little to no attention had been given to the cultivation of musical independence and interpretive originality during the formative phase.

It should be noted that the process of pedagogical cloning carries serious risks, because the cloning process is not exclusively confined to the transmission of "positive traits", but includes the propagation of the teacher's inherent limitations as well. Furthermore, because the process of cloning does not challenge the students' critical and reflective skills during their musical development, learners are generally less inclined to ask questions, explore alternatives, or seek their own solutions when they run into problems. Moreover, the essentials of true musicianship, such as creative problem solving, exercising artistic judgment and making appropriate aesthetic choices, are unlikely to be nurtured in the learning process. As a consequence, students may end up surrendering the most valuable asset of their musical worth - their "sense of musical identity" to a lack of insight in pedagogy.

In cases of pedagogical clones (especially in the case of W.T.), the unblocking process requires a thorough rectification using BAMP principles. As discussed in the previous chapter, I helped W.T. unblock using BAMP principles by establishing a cognitively and somatically connected approach her through focusing on the music. By preparing W.T. for a musical performance through sketch and test, creative variability was encouraged and facilitated. Also, through testing the possibilities and observing, W.T. was encouraged to risk, to enjoy venturing into the unknown, and to spontaneously vary in her own terms. In so doing, she could establish her musical signature with a sense of authenticity.

Pedagogical induced blocks imply a lack of insight, understanding and judgment by the teacher of the individual's needs. Two of the three participants interviewed complained that they were assigned pieces that were too difficult for them to manage. N.N. for example described how a performance breakdown and technical problems were caused by being told that he should perform a Beethoven Sonata at an extreme tempo, and should practice and maintain it no matter what.

The teacher here was clearly trying to introduce what she thought would be a pedagogically useful challenge or obstruction. However, the problem with this instance is that introducing obstructions only for the sake of creating a challenge is inappropriate and ineffective. What is more important is to help the student create a way to handle the challenge once it has been established. In this instance, instead of helping the student manage the fast tempo by showing them that they can do it, the teacher left it to N.N. to struggle through ineffective biological and cognitive organization. This may eventually reinforce or lead to blocks.

The imposition of unrealistic expectations can at times border on the completely inexplicable. D.C. recounted that her teacher expected her to know the solution in advance to a technical problem that she had never encountered. This predictably reinforced D.C.'s already serious doubt and insecurities about her ability to perform. By then, "*His [D.C.'s teacher] mere presence made me nervous even though he is gentle.*" In a similar vein, N.N. recalled *"I remember one time, I told my teacher that for a particular piece, sometimes it works and sometimes it doesn't. And the teacher said, "Well, it should always work."*

In retrospect, it becomes clear that didactogenically induced blocks are often exacerbated by the student's inability to assess and reconsider their relationship to the teacher. I am reminded of a colleague S.W. who went through a horrendous experience when he was pursuing his bachelor's degree in piano performance at a major music college in London (U.K.). His teacher was highly regarded because he had been instrumental in grooming a number of internationally renowned concert pianists and competitions winners. The teacher. however, was unsparing with denigrating and humiliating comments on S.W.'s lack of potential.

From all appearances, S.W.'s teacher seemed to be more concerned about preserving his reputation than the consequences of his behavior with his students. He would often lash out about the substandard qualities of S.W.'s performances. On one occasion, in order to prove how poor S.W.'s performance was, he played a compact disc recording of the same work by one of his competition winning students with a self satisfied comment, "*See? He could play better than you [S.W.] when he was half your age*!"

The consequences were predictable. Practicing became a nerve wracking ordeal. No matter how hard S.W. tried to please his teacher, nothing seemed to help. The demeaning remarks and insults continued to the point where S.W. became extremely depressed. Despite his apprehension, fear of failure, and stress, he continued to practice and persisted in continuing his lessons, as he was convinced that there was something wrong with him. It was until tendonitis, tennis elbow and pain in the upper torso began to manifest themselves that he got the message; quite simply, change teachers or suffer the consequences.

It is beyond the scope of this thesis to develop a comprehensive profile of the interactive dynamics between teachers and students. What is clear from my observations and participation in BAMP oriented research, however, is that the psychological and physical consequences can be alleviated with cognitive and biological reorganization. It must be emphasized here that the restructuring demands a rethinking on the part of both teachers and students about received wisdom about pedagogical approaches. Also, consequences of performance related injuries, such as carpal tunnel syndrome, tendonitis or tennis elbow may be alleviated by re-organization of the students' cognitive and biological resources.

Concert Hall or Court Room?

Inherent in the performing discipline is the paradoxical sense of being judged. The purpose of a performance, on one hand, is to share one's gift. On the other, it invites commentary from teachers, support groups, audiences and critics. It also invites comparisons and carries within itself implicit messages of competition whether identified

as such or not. Ultimately, the internalization of a pervasive sense of incompetence within an individual may potentially lead to blocks.

Participants in the interview study unanimously attributed musical performance blocks to their perception of being judged. These judges can be teachers, classmates, one's own piano students, support group, audience response, and expert "feedback". In Chapter 5, the author recalls the "proof" of her incompetence by describing her disastrous farewell performance in Hong Kong.

The perception of being judged is inevitable and is subject to a seemingly infinite number of implication and consequences. Musical performance is a risky business that demands very clear and realistic checks and balances in all aspects. Critical comments or feedback are normally helpful. However, innocuous feedback presented and reinforced at the wrong moment can contribute to the establishment of context specific or generalized blocks. This is particularly so, during the formative periods of a performer's development. Thus it is most important that performers reach a point in the development or cultivation of their resources where external comments of their performances can be understood in terms of their long-term merits. This shows that criticisms are not harmful if they are followed through with helpful advice.

In a performance, the sense of being judged reinforces one's insecurities, as A.L. remarked, "*When I play for a teacher, on a one-on-one basis,...I feel that I am being judged or criticized and I become very nervous. But say, in an audition, or even in a very small room where there are more than one person listening to me, I wouldn't feel the least bit anxious.*" Similarly, in the context of a master class, A.L. would be concerned with seeking approval from the master teacher, and hence try very hard to play in a

manner that she believed would gain the approval of the master teacher. A.L. interpreted her concerns about potentially receiving negative comments from teachers could be traceable to her intrinsic need to please others, as well as her concerns of having to deal with potential consequences in disappointing her teachers.

In terms of the experience of feeling judged in a performance, D.C. elaborates, *"I feel like everyone is looking at me and wants me to mess up"*. Implicit within D.C. statement was a feeling of judgment by an adversary. When viewed from this perspective, a performance becomes a torturous ordeal rather than a creative moment of musical sharing. This perception can directly affect the performer's sense of self, and sense of stage in a performance. The level of self doubt can escalate to a point that incapacitates the performer, as D.C. continued to describe the voices in her head that caused her to doubt whether she should continue to be a pianist, "*Well, I think I have a lot of voices that start talking to me. Why are you doing this to yourself, and why are you playing in front of all these people? And why are you even playing the piano? These voices are distracting but I cannot stop them"*.

It appears that these perceptions can be deeply ingrained within the performer that even playing in "non-threatening" contexts can lead to tremendous anxiety. As D.C. continued, "*Even though they (my young piano students) may not be judging me, I am judging myself. Or at least, I feel that they are judging me. If I was the little student, and that my teacher is playing something, I would be there judging to see if she is competent."* Most ironically, D.C. revealed later in the interview that her father was a judge.

In a milder way, N.N. experienced blocks that could be attributed to his excessive efforts in trying to please the audience, as he described, "*My insecurities come out every now and then and it is not good. I try not to. This is a paradox – you try not to think of the audience, but then you think of them*". It is interesting to observe, in contrast, that when N.N. was performing in a context in which he did not feel that he is under the microscope, such as improvisation, where there are no clear means of judging whether he performed a piece correctly, he did exceptionally well. As N.N. noted, "O*ne of the things that I am always doing, even now, is to convert a pop song into a concert piece. So, I used to do that a lot. ... with a lot of joy. ... If you ask me to improvise on the spot, I can do that too. I enjoy doing that. ... I remember once in my improvisation class, I changed the Satie Gymnopedie No:1 and my third variation of it sounded like basically like the Dante Sonata. ... And that was the arrangement of Satie's Gymnopedie! All my teachers were impressed. The piece sounded so different even though it was in the same key.*"

Unblocking in this respect is the achievement of the paradoxical "being on" experience. Here "auto pilot" is set in motion, and the artist is free to enjoy the performing experience.

Formal Competition

Formal competitions are a traditional breeding ground for irreversible performance blocks. At the highest level, they can mean the difference between "I made it and I didn't make it, I am worth it and I am not". In other cases, blocks emerge when the performing artist is unable to handle the guilt and shame, or disappointment associated with perceived or potential failure. The artist is often indebted to a support

structure that takes compounds a sense of obligation to succeed. Despite all the effort, dedication, and endless hours of preparation, the reality remains that one either wins or loses.

The anticipation of failure can be overwhelming. N.N. described the atmosphere during his attendance at a major North American music conservatory as a highly competitive and intimidating to the point that no matter how well he played, he was made to feel inadequate. D.C. was compelled to compete with her teacher's younger piano students which never failed to make her question her musical worth. This was compounded by being compared with her husband, a concert pianist with a local reputation. He never tired correcting her while she was practicing, "*...he was yelling out comments such as, don't play it this way, stop there, play the third note...*" Needless to say, the block D.C. experienced was pervasive.

On a particularly humiliating occasion, D.C. had this to say, "*I was trying to audition at a major North American musical institution for someone, and I played the 3rd Beethoven concerto, and my husband was my accompanist. When I told him not to push the tempo, I told him that I cannot play that fast, yet when we came to that passage, he increased the tempo to such a speed that I couldn't catch up with him. I know it was the most exciting passage and that it has to be moving, but I cannot play it that fast, and my husband just kept moving the tempo even though I was the soloist! I feel like it is better if I just ask him questions about fingerings...*"

For some individuals, the pressure of a competition may not only affect one's performance, but seriously compromise one's musical well being. Consider the case of Yundi Li, who won in the 14th International Frederick Chopin Piano Competition. He was

under such a state of psychological tension that he told his teacher that he contemplated suicide by jumping off a building.[29] Whether or not this was just an exaggerated comment from a beleaguered teenager under stress, it does not alter the fact that there was the prospect of potential failure in the contestant's eyes equivalent to betraying those who believed in him.

It is important to note that the meaning of the piano competition has changed significantly in the last century. Competitions in the 18th and early 19th century were meant to be informal musical exchanges between solo performers, who were seasoned professionals in the field – these included Mozart with Clementi, Beethoven with Cramer, or Liszt with Thalberg (Schonberg, 1987). Performers would take turns to play their own compositions[30], and improvise off one another's works, in the spirit of teasing each other. In the past, the purpose of the competition was intended to fully challenge the musicianship, while inspiring creativity[31] and artistry amongst professionals. In the end, there was no real winner or loser.

To this day, however, the competition no longer serves as a forum for inspirational musical exchange between professionals. Rather, the competition has become a platform for developing musicians to launch their musical careers (Alink, 1990) and to gain exposure and recognition. For participants attending competitions in

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[29] Radio Television Hong Kong Documentary, Outstanding Young Chinese Musicians Series 2004, Episode on pianist, Yundi Li.

[30] Nowadays, rarely are pianists required to compose their own music for a competition - perhaps with the exception of the Franz Liszt Piano Competition, where finalists are required to compose an original cadenza to the concerto that they will be performing.

[31] For example, Clementi's and Mozart's approaches to piano technique were very different. Clementi's performances revealed technical dexterity, evenness and strength, while Mozart's treatment of lyrical passages "flowed like oil" - as he indicated in his correspondences. In terms of compositional inspiration, Mozart developed the theme of Clementi's Sonata in B flat major (Op. 47 No.2) and created a variation for his Magic Flute Overture (Schonberg, 1987).

the hope of "striking it big", the competition at best tends to be virtuoso exchanges with minimum creative risk (Alink, 1990). This is evident in the fact that some of the most noted performing artists of the 20th century were losers in competitions[32].

Simply put, to become a prize winner, contestants are expected to anticipate the expectations of the jury, occasionally at the expense of one's artistic persona.[33] Contestants must also keep in mind that they need to please a committee made up of judges of diverse backgrounds and political affiliations. Any interpretation that deviates from a mutually acceptable norm is likely to jeopardize one's wining possibility.

It must be emphasized that winning a competition does not necessarily mean that a musical career is secured, and losing a competition does not necessarily mean losing of the art. Glenn Gould was very much against the spirit of competition in music. He believed that his only competition was with himself to evoke a clearer conception of the music (Payzant, 1997). He even asserted that competition, not money, is the root of all evil. In a similar vein, the Schola Cantorum[34] of Paris also promotes an artistic rather than a competitive spirit: "One does not make music against someone else." (Carhart, 2002).

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[32] Dinu Lipatti lost in the 1934 Vienna International Piano Competition and Ivo Pogorelich lost in the 1980 Warsaw Chopin Competition. Notable performers who never participated in any competitions include Sviatoslav Richter, Glenn Gould and Evgeny Kissin.

[33] Although the qualities defining an outstanding performance or characteristics of a winning performer remain very much a matter of subjective opinion, this very subjectivity still ignites heated controversies at contests, among both audiences and judges. As in the historical case of Martha Argerich storming out of the jury when she felt that Ivo Pogorelich was unfairly eliminated from the Warsaw Piano Competition in 1980.

[34] The Schola Cantorum is a school in which music, dance and theatre are closely integrated. The approach to education in the performing arts is informal and highly progressive. Isaac Albeniz, Claude Debussy, Eric Satie, Olivier Messiaen were all affiliated with the Schola Cantorum musically and philosophically.

It is clear that joining a competition requires a special mindset to deal with demands and pressures in a healthy and constructive way. In the long run, the healthy alternative demands a knowledgeable and empathetic mentor in tandem with a support structure dedicated to the artist's best intention.

Fear

It goes without saying that fear may cause one to mistrust one's capabilities, and lose control and confirm one's inadequacy by performing badly on stage. For instance, A.L. described her fear of being judged as unworthy by the audience. She encountered tremendous difficulties in playing expressively. To play expressively meant that, *"it* [the performance] *might just become out of control altogether... It might be horrible."*

On the other hand, D.C. remarked, *"...when I did something wrong on the keyboard, my teacher would hit me at the hand. When I was 7, I was accepted into the local conservatory, and the teachers there were equally cruel. They were mean. If you don't do well, you will be thrown out of the conservatory. So, I know I could not really afford being thrown out because it is bad publicity..."* The fear of failure can be magnified to overwhelming proportions that can become totally debilitating for the performer with lasting effects.

Understandably, the mere admission that one has blocks, or that, one needs to confront one's blocks can be an intimidating experience. Taking action to rectify blocks by venturing into unknown territory can be an even more frightening experience for some. When one relies, however, on previous habit patterns to dislodge an entrenched block, the likelihood would be a further entrenchment of the condition.

Needless to say, D.C. has taken on the persona of a victim given her experiences with teachers, expectations from family and schools, and her interactions with a highly competitive and intimidating husband. Even when working in a context where she was clearly not being judged, she resorted to take over the protective position of the victim persona. This was strikingly evident while working with a coach who was attempting to help her unblock. The moment the coach suggested instead that D.C. begin by working her technical problems in shorter and simpler pieces of music, she immediately translated the request as a challenge that would backfire should she fail, because this would leave her no more excuses to keep playing the piano.

Distractions

Distractions before and during a formal performance can block an otherwise well-prepared performance. Activities such as driving long distances, interacting with the audience, listening to others perform before one's performance may distract one from performing optimally. In my disastrous 1989 performance (see Chapter 5), I sat in the audience listening to others perform. I also chatted with acquaintances and professionals just minutes before going on stage. The unsuccessful performance gave me a hard lesson.

Distractions during a performance can turn into a block in a performance, trapping the performer within a vicious cycle. An experienced artist can turn a distraction to creative advantage. A late arriver, on the other hand, can be thrown by otherwise innocuous noises, lights, and conditions. If a performer encounters a memory slip, he may be caught by surprise and become momentarily distracted. When this happens, the performer may begin to anticipate when the next error is to come, and hence become

even more distracted. In this instance, blocks probably occur as a consequence of doubt associated with the potential of making mistakes or making a fool of oneself in the performance. As in N.N.'s case, he was further distracted by the self-talk (a strategy he used to calm himself down before a performance) he used in a futile attempt to analyze what led to the momentary slip while he was performing.

Understandably, distractions can be a nuisance during a performance. However, handling distractions through thought suppression can be counterproductive (Wegner, Schneider, Carter & White, 1989). S.W. recounted that in a performance in the preliminary round of a major national competition, he was distracted by a noise that resembled that of a dropping coin. He tried to suppress his reactions to it; but as he tried to ignore the thought, he could not help but wonder if the sound was coming from the jury to signal him to stop. This momentary hesitation led to a memory lapse in the middle of the piece he was performing. S.W.'s experience suggests that attempts to suppress thoughts in response to distractions during a musical performance can be counterproductive.

The freeze response is so prevalent when one begins to fall into a block because the stage experience leaves little room for one to fight or flee. As a consequence, distraction will often manifest itself in the physiological symptoms of a freeze response (typically excessive perspiration, cold and trembling hands).

Infrequent Formal Performances

Infrequent opportunities to perform publicly can contribute to the formation of performance blocks. Typically, during my own formative period, my haphazard approach

to practice was partly due to the few opportunities I had to perform publicly. It subsequently became clear that even with adequate practice, one must test oneself publicly in order to acquire the capacity to deal with audience feedback and contingencies. As N.N. noted, *"I have stopped for a long time, and 4 years is quite a long time to stop professionally. Every now and then, there would be more performing here and there, but not regular."*

Because occasions to perform for the late arriver are generally few and far between, infrequent performance may further exacerbate the need to excel. For the highly motivated performer, this implies that it may be a long time before one gets the next opportunity to perform publicly. This further imposes pressure upon the individual to succeed in order to justify the tremendous effort that has been invested into preparing for a single performance.

Performers who have little opportunities to appear publicly generally need more efficient and musically relevant means of preparing their concert programs than repetitive practice supplemented by an occasional rehearsal. It is here, where opportunities are provided by the sketch, test and digress procedure, that BAMP shows promise for a wide range of creatively focused possibilities.

Summary

This three-part research, i.e., the reflective case study, the exploratory case study and the interview study all demonstrate the bio-aesthetic hypothesis that blocking results from disruptions in the synchronization of the performer's biological, aesthetic and cognitive resources. The three studies strongly suggest that unblocking may be

accomplished by implementing the organizing factors implicit in the sketch / test and digress model of verification, namely, cross modal synchrony generated by metaphoric imagery, paradoxical causality and an embodied conductor delegated to expressively time an alternative performing route.

Chapter 8: Conclusions and Directions for Future Research

The objective of this thesis was to examine the viability of a non-biomechanical and non-biomedical approach to an understanding of musical performance blocks in late arriving pianists. In doing this, a number of major issues, including a discussion and analysis of BAMP and what it has to say about musical performance blocks, were raised. This final chapter summarizes the main points and findings reported in the thesis and, using these findings, speculates on some issues that might be fruitful for behavioral scientists to take up to complement our understanding of the nature of performance blocks.

This thesis was concerned with articulating the BAMP approach to musical blocks and demonstrating in various ways how it can be applied to understanding and addressing blocks. The rest of this chapter will be concerned with summarizing the BAMP approach to performance blocks and with what might be fruitful directions for a future research agenda that addresses BAMP and musical blocks.

Summary of the BAMP approach to musical performance blocks.

In this thesis we saw that it was possible to look at musical performance blocks from a bio-aesthetic perspective and that this had certain advantages over purely biomechanical approaches. The main premises of the bio-aesthetic perspective were the following: aesthetic order; cross-modal synchronization; expressive timing; homeokinesis; vocabulary; metaphoric imperative; paradoxical causality and delegated external / embodied conductor.

We also saw that this approach to performance blocks made good sense in light of observations about performance blocks experienced in real life by late arriving artists. For instance, with W.T., we saw an example of how delegation of authority to a musical reference was able to reduce unevenness in piano performance by establishing a sense of continuity within the performer's body. There was evidence that sketch and test through tactility can improve performance by reducing involuntary stresses and off-beat accents. An example of translation of the musical text to aesthetic musical movements was seen when W.T. successfully dislodged counterproductive performance habits through the use of aesthetic gestures and body movements that are consistent with the musical score.

Directions for Future Research

One important line of development that would be valuable to pursue at this point would be to try to ground the theoretical constructs underlying BAMP in basic behavioral science. The advantage of doing this would be to establish a connection between the study of direct musical performing experience and cognitive research. This would help to create a common language for artists and scientists to communicate with each other on issues regarding the aesthetic dimensions of performance. Insights coming from artists about the nature of human development would find its way into the research literature of experimental psychologists. Insights coming from behavioral and neuroscience researchers would become more accessible to researchers in the arts. At present, as was seen in the literature review, theories abound about how to promote performance and how to avoid blocks. There exist many beliefs about this and related issues regarding the origins and nature of talent, of human potential and the sources of individual differences (see, for example, Scheffler, 1990). However, many of these beliefs are not formulated in

a way that allows for them to be tested in a scientific manner. At the same time, many of the assumptions and ideas about performance, talent and individual differences held by experimental psychologists appear, from a BAMP perspective at least, to overlook issues that are of great relevance to artists. By creating a common language for scientists and artists to use when thinking about performance issues, there may come about, one can hope, a convergence in perspective between the two communities,

Some interesting developments in the BAMP approach to musical performance blocks were already discussed in this thesis in a non-musical (i.e., in a general psychological) context. In my view, many of these should be of interest to behavioral scientists to pursue in a musical context. These include: thought suppression, embodied cognition, transfer appropriate learning, and paradoxical causality. Since these psychological concepts are fundamental for BAMP, it is therefore necessary not only to establish their validity in a general psychological context, but also within a musical context to see if these processes are indeed operating in the ways assumed in the BAMP approach.

There are two areas that are particularly worthy of study and can perhaps form the beginning of the future research agenda. These areas are thought suppression and embodied cognition.

(1) Thought Suppression

In Wegner et al.'s study (1987) on thought suppression, a "rebound effect" was found, in that individuals who formerly had to suppress a thought became unusually pre-occupied with that thought.

In Wegner et al.'s experiment, participants were asked to spend five minutes saying anything that came to mind. Afterwards, each subject was asked to continue, however, this time, not to think of a white bear. And if the thought of a white bear came up, the participant was to ring a bell and then move on. On average, participants rang the bell about 6 times within a five-minute interval and also mentioned white bear thoughts several times. This level of occurrence of white bear thoughts was higher as compared to the level for participants who were simply asked to think of a white bear from the beginning of the experiment, thus indicating a rebound.

A musical analogy to Wegner et al.'s thought suppression study would be useful in order to establish whether the problems of thought assumed by the BAMP approach to underlie performance blocks can be validated experimentally. Such a study might be conducted in the following way. Instead of suppressing thoughts of a white bear, participants would be required to suppress an unwanted action in musical performance (such as a persistent habit). Subjects may be instructed to learn a new musical passage by playing it in a specific way (e.g., practice the passage with sharp staccatos) and afterwards, asking them to play it in a different way. Subjects would be divided into two groups. The first group -- the avoidance group -- would be given instructions that involve thought suppression (e.g., do not play the notes with sharp staccatos as you had practiced them before). The second group -- the indirection group -- would be given instructions through indirection as suggested in BAMP (e.g., play the notes by listening to how the melody sings beautifully). By analogy, one could study how often unwanted thoughts recur, perhaps by asking subjects to tap on a foot-operated device whenever the unwanted thought arises.

It may also be interesting to take electromyographic (EMG) and galvanic skin responses (GSR) to see if there would be evidence of muscle movement suppression in the avoidance condition but not in the indirect condition. For this, a piece of music could be chosen where a rebound effect would be expected to introduce dysfluencies in the playing (hesitations, uneven rhythms, wrong notes). Differences should be seen in the playing of subjects in the avoidance versus the indirection groups and the EMG and GSR information could indicate whether this difference is due to attempts to suppress motor responses.

It may also be instructive to observe the effects and interactions of thought suppression and indirection between expert and novice performers. A study in this direction would be useful because it attempts to further explore concepts in BAMP in terms of experimental research in behavioral psychology.

(2) Embodied and Situated Cognition

As Wilson (2002) indicates, the idea of embodied cognition is that "cognitive processes are deeply rooted in the body's interactions with the world" (p. 625). Wilson asserts that embodied cognition is "situated", in that it takes place in a real-world context. In this view, the environment forms an integral part of cognition.

Bergh, Eelen and Vrana (1990) conducted a fascinating study in which two groups of typists (skilled and non-skilled) were required to affectively discriminate alphabetical combinations. That is, they were asked to look at combinations of different pairs of letters and select the combination they liked better without reflecting on specific reasons of their choices. The subjects, however, were unaware that they themselves had been selected according to their typing experiences. The results indicated that skilled

typists reported a more positive affective impressions for alphabetical combinations that, had they been typed, would have involved typing with different fingers compared to alphabetical combinations that would have involved typing with the same finger. These findings thus suggested that letters of the alphabet were embodied within the skilled typist as a choreographed, full body response much akin to Bamberger's (1991) notion of a "felt-path". This result contrasted with those of the unskilled typists, who simply responded to the letters without reference to how they might have been typed.

An analogous experiment might be conducted from a bio-aesthetic perspective in musical performance. Two groups of pianists (professional performers vs. neophyte learners) could be asked to make musical judgments based on the "pleasantness" of a short musical segment. Intrinsic within the musical segment may be physical gestures that relate to the topographical layout of the patterns on the keyboard that may provide the skilled pianist with an embodied and choreographed gesture that can be experienced as more aesthetically appealing. For example, a harmonic interval such as a major sixth may be experienced as more appealing because it is physically spaced out in a way that is generally more comfortable for a normal-sized hand. In contrast, there would be stimuli in which the topographical layout would, if they were played, relate to some awkward, complex gesture that would normally be uncomfortable to perform. For example, a minor second may be experienced as overly congested for a normal-sized hand. One would expect the skilled performers to make different judgments to these two types of stimuli, reflecting the fact that they perceive the stimuli in an embodied manner specific to the piano. Presumably, the neophyte pianists would not make such reference to an underlying

embodied dimension of perception and so would not perceive the two types of stimuli differently.

It may also be possible that judgment of aesthetic appeal may be based upon other sensory modalities besides gestural or kinaesthetic embodiment. These may include embodiment in the aural (e.g., tonal intervals, harmonies, and melodic progression), visual and tactile senses (e.g., proximity of keys, spatial patternings). Findings from these studies may provide further insight into cross modal synchronization of BAMP.

Obviously, there are many aspects of the proposed research that would have to be worked out, including a number of important control conditions to ensure that the results were due to the experimental manipulations and not to confounds regarding the selection of participants or the choice of stimuli used (e.g., the minor second and major sixth referred to above may have culturally determined aesthetic values; this would have to be taken into account, of course). Assuming that such details can be worked out, it should be possible to create laboratory tests of the applicability of the constructs of thought suppression and embodied cognition to musical performance.

In a similar manner, future collaboration between performance analysts and behavioral scientists could examine the cognitive, perceptual and neurocognitive bases of other fundamental assumptions underlying the BAMP approach to musical performance blocks, including aesthetic order; cross-modal synchronization; expressive timing; homeokinesis; vocabulary; metaphoric imperative; paradoxical causality and delegated external / embodied conductor.

This thesis has aimed to demonstrate that an inter-disciplinary partnership between artists and research scientists can be possible, a view that was eloquently summed up by Phil Cohen (1993):

> *To Leonardo da Vinci, art – in all its forms – was the natural companion of science.*
>
> *The inquiring mind and the creative spirit – whether within the scientist, the visual or performing artist – seeks knowledge through experiment, reflection and insight into the unknown.*
>
> *Each attempts to move us, to enrich – perhaps challenge – our experience and expectations.*
>
> *Each in his or her own way, performs and as a performer complements the other's contribution to human understanding. Together they enhance the art of living and the exercise of human potential.*

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Appendix 1: Interview Written Questionnaire

Please be assured that all information provided to us in this questionnaire will remain confidential in the strictest sense.

Personal Information:

Name: _____

Sex: _____

Birth Date: _____

Marital status: _____

Citizenship: _____

Languages spoken: _____

Weight: _____

Height: _____

Contact information:

Phone (home): _____

Mobile: _____

Pager: _____

Fax: _____

Contact address

_____

_____

_____

Postal Code: _____

E-mail: _____

Web site address (if applicable):

_____

Information related to musical experiences:

I . Medical History:

Do you have any diseases or physical disabilities that interfere with your study and performance of music? (Yes / No)

If yes, please provide details

_____

_____

_____

Have you suffered any musical performance related injuries?

_____

_____

_____

_____

_____

II. Education:

Musical education background: _____

Major instrument: _____

Since what age you have been working on your major instrument? _____

Years in studying major instrument:_____

Years of experience in performance (in first instrument):_____

Minor Instrument: _____

Other musical instruments you play:_____

Nature of Musical profession (performer: soloist / chamber player, teacher, composer, improviser)

Type of music performance.: classical, jazz , pop, electronic music

Other non-musical academic achievements or training:

_____

_____

_____

III. Professional information:

How would you classify yourself: (solo performer / chamber player / recording artist / teacher / musical competition participant)

Have you made any recordings? (Yes, No)

How many recordings have you made? _____

When was your last recording? _____

Are you a professional recording artist? (Yes / No)

If (yes), Record company or Label to which you are affiliated with:

Have you participated in any musical competitions / contests? If yes, please provide details:

E.g. 1998 Montreal Piano Competition 1998 2nd Prize

_____

_____

_____

_____

_____

Number of years you have been involved as a musical performer (performing publicly)?

as soloist _____

as ensemble player _____

How often do you perform publicly? _____

Please select from the choices below:

(on average once or more per day, once a week, once a month, once every 6 months, once a year, once every 2-3 years, once every 5 years, once every 5-10 years)

When was your last "live" concert performing experience?_____

Attempt to describe your general experiences on stage in a "live" performing situation (in a few

keywords)_____

_____

Performing on stage "live" in the presence of an audience makes me feel: (elated & fulfilled, neutral, worried and nervous, suffer panic attacks, want to avoid the performance and cancel it altogether, think of potential criticisms, varies from one concert to another) if none of the above applies, please describe your experience in your own words -

_____

_____

IV. More musical information:

What is your current repertoire: (Just name a few pieces that you are currently working on or performing (please specify)

What are the challenges involved in these pieces that you are currently working on / performing?

Pieces which you plan or intend to study in the next 6 months (If any)?

Does any of your family member(s) perform an instrument? (Yes / No)

What genre of music? (Classical, Jazz, Pop, Folk, Ethnic, Others)

_____

If yes, what instrument?

_____

At what level? _____

Is this family member also a professional performer?

_____

Does a family member playing an instrument influence on your musical training and/or performance in any way(s)?

_____

_____

_____

_____

V. Musical Practice:

How often do you practice? (multiple sessions daily, twice daily, daily, every other day, once a week, less than once a week)

On average, how long generally does a practice session last? _____

Please describe in short, a typical practice session (of the normal routine that you would be undertaking)

_____

_____

_____

_____

_____

VI. Concert experiences:

(Please specify solo or group performance)

_____

_____

_____

_____

_____

VII. Pre-performance Rehearsals

How important are pre-performance rehearsals to you? (Extremely important, Very important, moderately important, neutral, moderately unimportant, very unimportant, extremely unimportant)

How many rehearsals would you generally require before feeling ready for a performance? _____

What areas do you attempt to focus on during rehearsals:

_____

_____

_____

_____

Do you have any personal pre-performance routines that you use to prepare yourself for a better performance on stage?

_____

_____

_____

VIII. Live Performing Experiences:

Best and most memorable performing experience (positive)?

_____

_____

How many years ago did this happen? _____

What are your thoughts of the experience in retrospect? (please summarize in 3 lines)

Worst and most terrible performing experience (negative)?

How many years ago did this happen? _____

What are your thoughts of the experience in retrospect? (please summarize in 3 lines)

IX. Teaching Experiences

If you are also a teacher …

What instrument(s) do you teach? _____

How long have you been teaching? _____

At what level (up to what level) do you teach? _____

To what age group? _____

What are the special areas of emphasis in your teaching approach?

_____

_____

_____

Do you teach using a specific methods? (Method books, Suzuki method, Taubman Approach, etc.)

_____

_____

Why do you choose this specific approach?

_____

_____

X. Others musical interests & preferences:

What is your favorite musical genre?_____

Who is your favorite musical performer? _____

Reason for preferring this performer?

_____

_____

_____

Appendix 2: Interview Oral Questionnaire

A Sample of Questions used for the Interview Study

I. Background related questions

a. Early Musical Experiences

i. When did you first learn to play the piano?

ii. Did you begin lessons with a professional teacher (e.g. a concert pianist or professional pedagogue)?

iii. How did your teachers work with you?

iv. Were you first taught in a group environment or on an individual basis?

v. When did you begin to improvise? Were you taught to improvise?

vi. Do you prefer to play by ear?

b. Later Musical Experiences

i. Was music performance a personal choice?

ii. Do you consider yourself primarily a solo performer or chamber musician?

iii. Have you rehearsed and/or performed with an orchestra?

II. Performance related questions

i. Do your experiences differ between performing in a concert and in a competition?

ii. How is the general experience of stage performance for you?

iii. Do you have other performing opportunities besides piano performance (e.g. public speaking, acting, dancing, etc)?

III. Questions related to Competition and Judgment

i. How did you feel after playing through a piece for a private master class? Do you consider that as an experience similar to that of a piano lesson?

ii. When did you begin participating in competitions?

iii. Do you enjoy being in the competition circuit?

iv. What influence(s) do you think competitions have on you as a performer? And also in terms of your performing experiences?

v. Why did you decide to stop participating in competitions?

vi. Would the presence of family members affect your performance?

IV. Questions on Didactogenically Related Blocks

i. How is the approach of your most influential teacher(s) like? What do you think about this approach to teaching? And how may that influence your performing experiences?

ii. Do you find it difficult for you to reconcile differences in the teaching styles and approaches when you changed teachers?

iii. Do differences in teaching philosophies and approaches cause any conflict or doubt in your practice and performances?

iv. How are your relationships with your piano teachers like?

v. Do you believe that your teachers modify their teaching to accommodate your specific musical and developmental needs?

vi. Does the intense academic demands in music college present difficulties for you to maintain a regular performance schedule beyond fulfilling academic requirements?

V. Questions related to Performance Anxiety

i. Have you ever encountered any experiences that made you nervous in a performance?

ii. Do you feel nervous in informal performing situations?

iii. Are there any pre-performance routines that you adopt to help alleviate performance anxiety?

VI. Questions on Blocks

i. Do you have recent or distant performing experiences that you believe block you? What are they?

ii. What is the most prevalent obstacle that you have encountered in musical performance?

iii. How did you feel when you had a memory lapse on stage?

iv. What do you think are the causes of the memory lapse? Is that the only time that this happened?

v. Have you ever had pain or discomfort associated with piano practice and performance?

VII. Questions related to Musical Aspirations

i. What do you feel most dissatisfied about your playing at this point?

ii. What are the major limitations that you would hope to overcome in musical performance?

iii. With regard to your musical performance, what will be the next phase that you would hope to progress toward?

VIII. Questions on Attempts towards Unblocking

i. When distracted, how do you get back to a focused state on stage?

ii. How useful is somatic awareness training (e.g. Alexander Technique or Feldenkrais Method) to you, in terms of assisting your practice and performance?

iii. Do you use any pre-performance routines to help you perform more reliably?