EDITED BY

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The Oxford Handbook *of* MUSIC AND THE BODY

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CONTEXTUALIZING MUSIC AND THE BODY

An Introduction

YOUN KIM AND SANDER L. GILMAN

In the 1994 film adaptation of Mary Shelley's *Frankenstein*, the monster learns to speak, sense, perceive, think, and even play a flute. When he encounters his creator, Dr. Victor Frankenstein, the creature asks about his musicality: "Did you know I knew how to play this? In which part of me did this knowledge reside? In these hands? In this mind? In this heart? . . . Who am I?" The creature was not the only one captivated by such questions. The precise seat of musicality in the human body has fascinated many for generations. In the early nineteenth century, phrenologists were intrigued by Franz Josef Haydn's skull, whereas subsequent generations revered the hands of Franz Liszt and Nicolò Paganini as divine musical relics. Today, the idea of a "music room" in the brain appears to be prevalent. Scientists scan musicians' brains to reveal their musical minds (Spitzer 2005). All these engaging cases bear on one of the themes of the present Handbook: music is created, performed, and appreciated by the human body.

Still, we can continue to ask: Can one's musicality be relegated to any single part of the body? Imagining the hands, ears, and brains as the body parts most immediately related to performing and listening to music is possible, but they do not function independently. The entire body works as the subject of musical activities. How about composing or mentally rehearsing a melody, which may appear to be "purely intellectual"? How is the body related to these musical activities? For a long time, composition and imagination have been considered to be the results of "a mysterious and solipsistic process that emerges unpredictably from deep within an individual" (Thompson 2009, 210). They were associated with intuition, inspiration, and insight—as matters of mentality, spirituality, and the psyche detached from the body and soma. Nonetheless, can we separate the musical mind from the body? The questions concerning how the body as a whole is related to musical activities, thus, invite us to rethink the old binary oppositions of "mind versus body." We compose and imagine while making conscious and unconscious

choices within individual and social spheres. In doing so, the biophysical and cognitive as well as stylistic and social constraints influence, if not limit, how we create and imagine music. In other words, our musical thoughts are grounded in the body, thereby enabling and shaping music.

In the 2004 TV adaptation of *Frankenstein*, yet another interesting scene highlighted the relationship between music and the body. Upon hearing music for the first time—a blind man's violin performance of Johann Sebastian Bach, Sonatas and Partitas for Solo Violin, BWV 1001, Adagio—, the monster suddenly bursts into tears. In fact, the first stage adaptation of the novel, Richard Brinsley Peake's *Presumption* (1823), also contains a stage direction in which the monster physically responds to music (Cox 1993). These scenes—which did not appear in the original novel—point to music's power over the body. One can easily think of experiencing chills, shivers, or frissons when listening to certain musical passages. Music can induce not only these temporal physiological changes but also lasting effects on the human body. Thus, as much as the body is the subject of music-making and appreciation, music also influences and changes the body.

The link between music and the body seems self-evident. Nonetheless, only recently have music and the body been "brought back in" discussion (Frank 1990) and explicitly investigated from various perspectives. The study of music and the body intensified with the shift in the humanities—which has traditionally tended to shy away from the corporeal—and the development of the new technologies of looking into the body in sciences. The topic provides a converging platform for the humanistic sciences and scientific humanities to interact. After all, our body is "bio-socio-psycho-cultural," and music is what we do with such a body in the spaces and within the meanings attendant to it. Music and the body can be subjected to various interpretations and understandings, and the relationship between the two is even more multifaceted.

This chapter aims to provide a background for the rich and complex field of music and the body. It initially discusses multiple definitions of the body and raises a set of fundamental questions in the general context of body studies. The chapter then contextualizes the topic with regard to music and identifies six different yet related aspects of music and the body. The subsequent chapters—each discussing the significance of the body in music from specific perspectives—are configured accordingly.

The Body and Music

The past decade has seen an explosion of scholarly works on the body in virtually every field in the humanities and social sciences in ways that have paralleled changes and innovations in the biomedical sciences. The more we learn about the body the more we need theoretical models that provide alternative readings not just to the biomedical body but also, as John O'Neill argued in 1985 in his seminal work *Five Bodies*, to all of the different meanings, senses, and maps of the body with which we live. He sees the human body as "an intelligent and critical resource in the anthropomorphic production of those

small and large orders that underlie our social, political and economic institutions" ([1985] 2004, 16). With the burgeoning field of "body studies," we are now talking not merely about the collection of in-depth yet isolated and independent studies, but about the all-embracing attempt to investigate the human body from diversified yet comprehensive perspectives. The present volume shows how these multiple definitions of the body and the equivalently complicated definitions of music interact and provides a set of case studies for complexity in understanding human experience, creativity, and interaction. Writing about music and the body means providing an understanding of the interrelationships between two ambiguous categories. Yet, as we shall see, such ambiguities are not necessarily erased in writing about their intersection.

Even thinking about the body as an organic reality experienced both from the perspective of an objective observer as well as from the very subjective position of embodiment has shifted over the recent past. In the nineteenth century the intellectual debate was which of the "higher senses," sight and sound, was most accurate in capturing the complexity of the world. The question was which provided the best map: for some it meant a map that was more abstract; for some a map that was more concrete (Chua 1999). The biomedical model shifted from "listening," which had been dominant from at the very beginning of the nineteenth century, to the world of "sight." Indeed, the biomedical sciences moved from the study of the whole organism to the cell in the late nineteenth century with the publication of the German physiologist Rudolf Virchow's 1858 monograph *Cell Pathology*. In his volume there is an image of the complete human body, but most of his plates reflect the new and exciting cellular level of the body, visualized through the application of coal tar dyes developed in nineteenth-century chemical laboratories. By the mid-twentieth century, molecular biology, in fields as diverse as genetics and psychiatry, began to move the study of the body to ever more complex (if ever less holistic) levels of analysis and explanation. The teaching of gross anatomy in the course of the twentieth century, which sought to teach the entire body, gave way to the study of systems in medicine. The older models of listening to the body in the late eighteenth and early nineteenth century, developed first by Leopold Auenbrugger (percussing the chest) and René Laennec (who developed auscultation and the technology of the stethoscope), were rooted in a detailed understanding of gross anatomy. Wilhelm Röntgen's discovery of X-rays in 1895 moved the emphasis from listening to the body to seeing inside of the body, echoing a core debate in nineteenth-century aesthetics as to which was the more sophisticated sense: hearing or seeing. But in the medical sciences both relied on gross anatomy in comprehending the body. The mid-twentieth century moved the focus from the cellular level to that of molecules and atoms. This refocusing provided new ways of seeing the body: computerized tomography (CT scan), which used X-rays to look at a now three-dimensional body, and functional neuroimaging (fMRI), which relied on reading the body through electronic scans of blood flow. (The irony is that the fMRI is significantly about "sound," as radiofrequency pulse is used to accentuate nuclei to higher magnetization levels. Likewise, Thorsten Wiesel and David Hubel's Nobel Prize–winning work [1981] on the neuroscience of the visual system was done in the 1960s via the sonification of neural firings.) Thus the living brain came to be visible

in its functions just as the neurobiology of the brain became more and more transparent. Seeing seems to have won out at the moment, but listening to the body remains a powerful way, as we shall see in this volume, that the "psy disciplines," to use Nicolas Rose's term (1996), imagine their undertaking. Yet listening and viewing are central to understanding the complex relationship of ideas and representations of the body to the equally complex meanings attached to music (Benjamin 1968).

All of these innovations were coupled with complex models of understanding not only how data was to be generated but also how it would be interpreted. These models appeared both in the social sciences, often including social and economic data ascribed to the individual. One key example was the revelation that while high blood pressure in the African American community had been ascribed solely to genetics, the fact that the population of West Africa from which the ancestors of African Americans had sprung had much lower rates of high blood pressure led researchers to examine stress as a factor in the expression of genetic materials (Cooper et al. 2005). Models from the humanities, including models taken from women's history, examined how data, which recorded normal, healthy female experiences such as childbirth and menopause, were interpreted within medicine as pathological. The approaches and methods of a greater number of often conflicting models of understanding the body drew the interpretative sciences in the humanities and the so-called soft social sciences closer and closer into the world of the descriptive sciences (such as the so-called hard sciences such as genetics and evolutionary biology) so that in the end body studies came to be a merger of both (Gatherer 1995). It was the quality of the body experienced and observed that defined the type and focus of such studies. Each lays claim to its own methodology and each methodology to its own definition of evidence (Gould 1980).

Yet none of the changes, advancements, or alterations in our understanding of the body is free from the core methodological question: what manifestations do we examine to provide evidence for our reading of the body? Medical readings have usually departed from pathology, and we have had complex systems of pathology reading in and onto the body since the ancients. Entire arenas of body studies, such as disability studies, have questioned the pathological reading of a range of bodies earlier seen as ill or deviant. Central among these rereadings, as the philosopher Hilary Putnam argued in the 1970s, are those that rely on aesthetic criteria rather than scientific evidence (Conant and Żegleń 2001, 14–24). Is an abstract visual abstraction of the body in musical performance through opera or dance (in very different ways) as vital to our understanding of music in and of the body as our acoustic reception of music as ears and brains that listen? Today the study of bodily representations in their aesthetic mode is a key dimension of body studies. Yet anatomical questions also remain foregrounded. Which is the "real" body?

The interface between music and the body is multidimensional and multidisciplinary, involving biological, social, cultural, historical, ideological, psychological, and philosophical dimensions. Each of these fields has focused on different aspects of the relationship between music and the body. We believe that it is necessary to consider the issues in a broader context. By uniting in this Handbook approaches from very different

contexts, we hope to highlight the complexity of music and the body and encourage further interdisciplinary research.

Music and the Body: Lines of Inquiry

In the context of music, we can contemplate on various background factors behind the recent surge and formation of music and the body as a field. One such factor is the conceptual expansion from a rather narrow approach centering on scores, composers, and the "work" toward a broader consideration embracing performers, listeners, and societies (see Goehr 1992). If the previously advocated "structural listening" implies "the almost total exclusion of human physical presence" (Dell'Antonio 2004, 8), the new comprehensive view considers music as neither a text nor an artifact but rather as a process and a phenomenon (see Cook 2001). Such a proposition naturally calls attention to the bodily dimension of musical activities. This dimension not only involves the most apparently somatic activity of performing but also incorporates composing, listening, and even the notion of music itself. Music is conceptualized not only as a noun but also as a verb: "musicking" or "to music" denotes "to take part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing material for performance (what is called composing), or by dancing" (Small 1998, 3).

Increasing sensitivity toward different types of musical media is also pertinent to the relationship between music and the body. Now, more than at any time in history, we have diverse opportunities to experience music in all genres and periods, via recordings (Philip 2004; Borio 2016). The development of technology has made music increasingly portable and accessible. Hence, it is generally considered an object rather than an activity. Conjointly, acousmatic, which means hearing without seeing the source of the sound, became the dominant mode of listening. Although the term "acousmatic" is attributed to the ancient Greek Pythagorean teaching (see Schaeffer 2017), it is not long since we began to listen without seeing. In this mode of separating sight and hearing, music is experienced without "that intangible sense of the music taking shape before us" (Johnson 2002, 197). Thus, the source of the sound, the musicking body, can evade our attention. The prevalence of the acousmatic mode of listening seemingly points to the removal of the sonic body. The notion of the acousmatic itself, however, ironically highlights the significance of the body in musical experience. We become aware of the body by consciously realizing its absence. Pierre Shaeffer's discussion of *musique concrète* (Shaeffer 2017), Michel Chion's theory of film sound (Chion 1994), and even popular TV shows like *The Voice*—which feature blind auditions for singing competitions—explore the imagination and potential extension of the unseen musicking body. Here, the body is projected even in the acousmatic setting (Kane 2014; see also Leppert 1995).

In conjunction with the body's gaining prominence in intellectual discourse, the development and availability of new imaging technologies in neurology and neuroscience have been instrumental in such an ideological expansion. Emphasis has been redirected

to previously marginalized aspects of experience. The notion of the musical mind is broadened to include not only the biological brain and cognition but also emotions, feelings, trance, and the human psyche in a wider sense (Cochrane et al. 2013). Along with this, putting the body in contexts demonstrates yet another interesting aspect of music and the body. Music can inspire transcendental—the so-called out-of-body experiences—in deep trance states (see Rouget 1985; Becker 2004).

The body produces and experiences music in a given time and space. Therefore, the environment must be considered in approaching the relationship between music and the body. Such ecological perspectives in the psychology and sociology of music as well as ethnomusicology all converge on the significance of the environment and the body's interaction with it (see Clarke 2011; DeNora 2011; Feld 1993).

This is not a mere reflection of an intellectual trend. To quote the musicologist Susan McClary, "It is not . . . for the sake of following fads that questions about the body need to be brought to music, for the body has always been there. Rather, the current interrogation of the body in the academy finally bestows legitimacy on a topic that ought never to have been banished: the constant interaction between music and bodies" (1995, 87). Such legitimacy seems today to be given, yet when the competing notions of both "body" and "music" in the critical literature are examined, one notes the constant attempts to delegitimize various notions of each, highlighting the "authentic" or "natural" or "given" assumptions that underlie one or the other. One classic example is when the noted historian William H. McNeill claimed that dance music reflects the intuitive imperative of the beating heart translated into movement (1995, 2).

The Oxford Handbook of Music and the Body is the outcome of a multidisciplinary effort to explore the diversified perspectives on music and the body. We first view the performing and listening body as an object from anatomical, physiological, kinesiological, and psychological perspectives. However, even the most physiological act of hearing cannot be completely objective. To paraphrase the vision psychologist Daniel Simons, we "hear the world as it isn't" (Chabris and Simons 2011). Thus, it is equally important to incorporate the body, which experiences music from a subjective, first-person perspective while moving dynamically in its physical and cultural surroundings. We are interested in the history as well as the science of such claims. The volume will serve as a handbook for both students in a wide range of fields (from anthropology to human medicine and from musicology to psychology) and specialists, who need broader orientations to questions of music and the body.

In mapping out this new field, we aim at bringing together the questions previously separated by the traditional dichotomies of the sciences/humanities, nature/culture, mind/body, and activity/object. We consider various modalities of the music–body relationship (such as hearing, seeing, and kinesthetics), the subjects of the action (i.e., composers, performers, and listeners), and the different genres and cultures of music. This Handbook is organized around the following lines of inquiries. However, one chapter often deals with more than a single theme and thus can be grouped under different sectional headings. Readers are invited to listen to the rich and resonant dialogues created by diverse perspectives across chapters and sections, which span a wide and interlocking range of topics.

Moving and Performing Body

"In the beginning was movement"—with these words, Maxine Sheets-Johnstone indicates the importance of the moving body living in an animate world in her interdisciplinary study on the kinetic phenomena (2011, 331). The moving body is central to the understanding of music. Particularly, musicking and dancing bodies share certain features. Music and dance—being nonlinguistic (nonverbal) forms of communication—manifest the inseparability of mind and body: in both, "we observe mind at work through movements of bodies in space and time" (Blacking 1977, 18).

Dancing and music are inseparable in many cultures and were probably integrated together in the prehistoric time. Recent evolutionary theories consider music and dance as a coalition signaling system (Hagen and Bryant 2003). What is then the musicality of the moving body, more specifically, that of the dancing body? Byron Suber's chapter discusses the fundamental issues on the musicking and dancing body in the specific context of Western concert dance, which assumes visual as well as aural consumption as a theatrical form. As movement implies temporality, the moving body is also the foundation of our aesthetic judgment of music. Cognitive expectation plays a critical role in organizing human actions and arousing emotions, and Jay Schulkin's chapter connects music, movement, and thinking in providing a kinesthetic/anticipatory description of musical sensibility.

The body not only responds to but also produces music. Music-making, particularly performance, has been relatively overlooked compared with composition and listening. Traditionally, in the communication model proposed by Claude Elwood Shannon and Warren Weaver (1949), performance is a mediator or a "transmitter" that connects the "information source" (composer) and the "destination" (listener) of the musical communication system (see also Meyer 1961). However, it is also possible to conceptualize the relationship between musical works and performance conversely: "*performance does not exist in order to present musical works, but rather, musical works exist in order to give performers something to perform*" (Small 1998, 8; emphasis in original). Above all, we experience music mainly through performance: "The experience of live or recorded performance is the primary form of music's existence, not just the reflection of notated text" (Cook 2014, 1; see also Cook 2007; Rink 2005; Le Guin 2005). Attention to the somatic and tactile dimension of musical activities also leads to growth in studying various types of physical gestures and bodily movements for producing sound, facilitating performance, and communicating among peer performers and the audience (Davidson 2012; Gritten and King 2006, 2011).

The body as an instrument, therefore, will be the groundwork for understanding the relationship between music and the body. All parts of the human body can produce sounds (and music). People in various cultures have been making music by stomping, clapping, patting or hitting body parts, and snapping fingers.[1] Nonetheless, the most immediate musical instrument would be the voice. The emergence of music itself usually begins with the discussion of various vocalizations including "protolanguage," "protomusic," or "musilanguage" (Brown 1999; Tomlinson 2015; Mithen

2007). Focusing on voice, Marina Gilman's chapter presents the scientific and practical understanding of the human body as the instrument, discussing the anatomy and physiology as well as the performance and pedagogy of the voice in the context of the entire body.

The body as a sound-producing instrument can be extended beyond one's actual body. As Maurice Merleau-Ponty affirmed, "Those actions in which I habitually engage incorporate their instruments into themselves and make them play a part in the original structure of my own body" (2002, 104). When a person makes music with an instrument, the body mediates between the instrument and the world and acts on both by developing its own complex motor capacity. The use of instruments transforms the motor areas of our brain. Musicians generally speak of the inseparability of their bodies and instruments. In the words of the pianist Claudio Arrau, you have to "feel the unity of the instrument with your body" (cited in Arx 2014, 77). Musicians' instruments are, in fact, incorporated into their brain maps after years of practice (see, for example, Gaser and Schlaug 2003; Haueisen and Knösche 2001). Coincidentally, the oldest surviving musical instrument, the Geißenklösterle flute, dating perhaps to 40,000 years ago, is made of a bone, a part of the animal body (Higham et al. 2012). Instruments extend somatic boundaries, not only figuratively but also literally. Recent developments in technology further expand the limits of the musicking body and reconfigure the interaction between the body and instruments (see Haraway 1991; Hayles 1999; Ihde 2015, 1990). Atau Tanaka and Marco Donnarumma's chapter examines the evolvement of the idea of the body as musical instruments in a cross-disciplinary context, leading up to the examples of "posthuman body" in contemporary experimental musical practice.

Musical Brain, Psyche, and Beyond

Studies on music and the brain have drastically increased over the last two decades with the development of new techniques, such as fMRI, position emission tomography (PET), electroencephalography (EEG), and magnetoencephalography (MEG). Despite some of the apparent limitations, such as the noise of the machines or the restrictions of bodily movements, these techniques enabled real-time exploration of a living body's brain activities for the first time in history. Such neuroscientific studies elucidate brain responses to music in listening, as well as the neural activities in imagining and performing music. Others provide case studies of individuals with neurological disorders. Often collectively called the "cognitive neuroscience of music," these studies illuminate our insight into the musical brain. What is the underlying brain mechanism in music perception and cognition? The pursuit of this question illuminates the nature of the human brain. In Stefan Koelsch's words, "Listening to music, and music making, engages [*sic*] a large array of psychological processes, including perception and multimodal integration attention, learning and memory, syntactic processing and processing of meaning information, action, emotion, and social cognition" (2012, x). In this view, musicality is located in the brain and many scholars have paid attention to the

topic of the musical brain. As Oliver Sacks confirmed, anatomists would have difficulty identifying the brain of artists, writers, or scientists, but they would recognize the brain of musicians (2007, 94). Considerable research is conducted on the brain, taking music as "an ideal tool to investigate human psychology and the working of the human brain" (Koelsch 2012, 2). Paul Lennard's chapter in the present volume not only examines how music changes the brain but also elucidates the connection between music and language by comparing nonmusicians' holistic and musician's syntax-oriented listening from a neuroscientific perspective. A related yet different approach to music and the body can be taken in the context of psychoanalysis. In addition to causing functional and morphological changes to the brain and providing therapeutic effects to the body, music and listening play critical roles in revealing and understanding the psyche, the inner self. Sander L. Gilman's chapter examines the multiple links among music, unconscious thoughts, listening, and healing, and sheds yet a different light on music and the body in the context of psychanalytic theories. Such concerns for the brain and the psyche should not exclude cultural and social factors. For instance, mirror neuron theory proposes that humans can feel emotions by the neural mechanism of observing and simulating others' action in the brain (Molnar-Szakacs et al. 2006). This theory deals with the intersubjective and interpersonal brain and body. Human brains produce and consume music through interactions. Thus, the two approaches of the brain as a biological and cultural entity must converge (Pitts-Taylor 1995). Mia Nakamura's chapter offers one such example of this convergent approach to the musical brain, exploring an intersection between sociology and neuroscience. Musical experience is viewed as not only a cognitive but also an expressive and aesthetic experience that includes affective responses to music (see Hodges 2016).

Embodied Mind, Embodied Rhythm

Brain science locates the control center of the body in the central nervous system, consisting of the brain and the spinal cord. It proposes that all bodily actions and movements are regulated by the brain. Therefore, the mind is equated with the brain and has control over the body. The idea of embodied cognition, proposed by the philosopher Mark Johnson and the linguist George Lakoff, overturns this relationship between the mind and the body by emphasizing the significance of kinesthetic action with regard to thinking: the body influences thoughts (Lakoff and Johnson 1999; Johnson 1990). Our thoughts are grounded in "the phenomenological experience of our bodies in action" (Gibbs 2005, 3). The invisible and disembodied psyche, the mind, is intertwined with the embodied soma, the body. Unlike Western tradition, where mind and thoughts are viewed as formless and body-less, we argue that the mind is embodied, that it is grounded in the body. In response to these arguments in cognitive linguistics and psychology, physical and musical gestures have been developed as the fundamental ideas of music production and listening (Zbikowski 2006, 2002).

In the present Handbook, Rolf Inge Godøy's chapter addresses embodied music cognition in the context of the mind–body issue. All activities of the mind, such as perception and cognition, are grounded in the phenomenological bodily experience. Moreover, the physical movement of the body shapes these mental activities and phenomena (Gallagher 2006). Thus, the relationship between music and the body goes beyond the most immediate dimension of the body as executing music. In listening to Robert Schumann's *Kreisleriana*, Roland Barthes famously says, "I actually hear no note, no theme, no contour, no grammar, no meaning, nothing which would permit me to reconstruct an intelligible structure of the work. No, what I hear are blows: I hear what beats in the body, what beats the body, or better: I hear this body that beats" (1986, 299). We are hearing the body *within* the music. As Nicholas Cook aptly validated, the body is "encoded within the sound" as the "virtual body of the music" (2016, 191; see also Cox 2016).

Music resounds in our body, which also echoes music. We synchronize our bodies to the rhythm of the external world or to that of other bodies. Traditional Western classical concerts demand that the audience be silent and motionless while listening to the music. However, this tradition is a rather peculiar and historically recent phenomenon. As the writer Philip Ball puts it, "Music is often said to find a short cut to the heart, but the right sort of music takes a quick route to the legs" (2012, 208). This capacity to synchronize with other rhythmic cycles and coordinate rhythmic movements is believed to have played a critical role in the survival of mankind (see Bücher 1899, on the subject of work rhythm; see also Thaut 2005; Bispham 2006). While some zoomusicologists take a biosemiotic approach, proposing the concept of animal music (Keller 2012; Martinelli 2010), others would claim that only humans have music (Nattiez 1990). Music is indeed a special way of gaining insight into humankind and the body. The capacity of entrainment can enlighten the ensuing debate on this issue (Patel et al. 2009).

The chapters in this section illumine the different aspects of embodied rhythm and mind. Eugene Montague's chapter identifies and examines the different types of entrainment through a case study of J. S. Bach's prelude. Daniel B. Steven's chapter also deals with Western classical keyboard music, Frederick Chopin's etude and Leopold Godowsky's paraphrase-study of that etude, but with the focus on expressive timing in the act of performance and how it is related to the complex and dynamic gestures of the performer's body. Shersten Johnson's chapter explores the multimodal embodiments of rhythm in selected operatic scenes and how they affect the experience of the dramas. The human body, which is important for understanding the perception and production of rhythm, crucially highlights the very notion of music and musicality. In examining the relationships among music, the body, and freedom in seventeenth- and eighteenth-century French music, Hedy Law's chapter demonstrates how the seemingly transcendental concepts like freedom can be addressed through the context of embodiment. Bacchus, the focus of inquiry here, presents a close link to the next section by engendering the idea of the extraordinary body.

Music and the Disabled and Sexual Body

The human body is a biological, "natural" entity, but this body is highly susceptible to social and cultural influences. Disability and sexuality are both qualities of the body that are subject to the medical definition but also social constructs. How does a body defined by the normative standards of any given society work in the production of music?

There has been a growing and sustained interest in the physical dimension of the human body in the humanities, as demonstrated in the studies of such culturally and historically conceptualized notions as health, disorder, disability, disease, sensuality, and medicine (including pioneering works like Bordo 1993; Butler 1990; Foucault 1978). This interest has paralleled and merged with work undertaken on theories of representation of the body and its pitfalls that grew out of continental philosophy in the 1960s. The debate between a "soft" and a "hard" history of science, which rejects the image for the material, has led to a new materialism in the history of medicine (Gilman 2015, xvvi–xxi). Only the lived reality of the experience embodied in the materiality of the world is taken as "real." Recently this merger has become apparent in disability studies in music, which includes both the representation of disabilities and a focus on the disabled performer, observer, and/or composer, rather than on the interaction between the cultural assumptions of disability (positive or negative) and the lived experience of the disabled performer.

The interest in the relationship between music and disability has rapidly and intensively arisen during the first decade of the twentieth-first century (see Lerner and Straus 2006; Straus 2011; and Lubet 2011). The chapters in this section provide a multidisciplinary perspective on the relationship between music and disability. Michael B. Bakan's chapter explores how musical experience mediates bodily existence through the ethnographical studies of two individuals. Blake Howe's chapter presents various formulations of music as the agent of healing and rehabilitating disabled bodies. Stefan Honisch's chapter explores blindness and deafness in the context of competitive music performance, where disability and virtuosity converge with each other. In Linda Hutcheon and Michael Hutcheon's chapter, the singing, acting body on the stage is foregrounded, and the representations of the differently abled and sexual bodies are examined in the operatic context. Hanne Blank's chapter focuses on nineteenth-century operas and the experience of the sublime, enabled by the operatic presence of sexuality and dis/ability. In our discussion, we include the embodied experiences of individual practitioners of music in approaching music and the individualized body. Such an attempt includes the chapter based on the interview with Evelyn Glennie. The most recent rethinking of disability redefines disability on a scale of "human variability" that understands the difficulties facing the disabled as resulting from the inflexibility of social institutions rather than from impairment. The feminist disability studies scholar Rosemarie Garland-Thomson has defined "disability as a way of being in an environment" produced by the "discrepancy between body and world, between that which is expected and that which is" (2012, 342). Not only is disability the disjuncture between the world and the individual, but

also, as all who age become disabled, "disability is thus inherent in our being: What we call disability is perhaps the essential characteristic of being human" (342). This discussion eventually engenders a more general question regarding listening as defined by social institutions with the whole body.

Music as Medicine

The relationship between music and medicine has never ceased to be discussed. This is not surprising, given that music is commonly an integral part of healing rituals in several cultures. When we think of music and medicine, the first thing that comes to mind is music therapy, the standardized practice, and application of clinical music strategies in medicine. Nonetheless, professional activities for applying music *as* medicine are not the only link between the two. Above all, the topic of music and medicine presents an interesting connection between the mind and the body, which were separated and opposed in the traditional conceptualization. The notion of pneuma proposed by the pneumatic school of medicine as some sort of vitalistic fluid, for example, may avail in connecting the mind and the body.

In addition to the obvious connection of music as medicine, the two are interrelated on many different levels. Since the 1990s, the liaisons between them have been discussed in a wide historical, social, and cross-cultural context. In addition to practicing music therapists, neuroscientists, and psychologists, scholars in history, philosophy, cultural studies, anthropology, and musicology have been active in this interdisciplinary discussion (see Koen et al. 2011; Gouk 2000; Horden 2000). James Kennaway's chapter examines music and medicine against the historical background of embodiment and takes a medical approach to explain the effect of music. H. M. Evans's chapter investigates the healing potential of music by looking into musical imagination and hallucinosis and thus addresses the question of why music-as-therapy can be effective.

Music and the Multimodal Body

Our experience of music is mostly and naturally multimodal, frequently involving hearing, seeing, and often other sensory modalities. The unimodal, sightless, and audio-only mode of music listening was far from normal before World War I (see Cook 2016, 1998; Katz 2012). This section approaches music and the body from a holistic perspective. Instead of discussing each mode of perception independently, the chapters in this section investigate the issue across modalities and disciplinary boundaries. Xuejing Lu and William Forde Thompson focus on cross-modality and spatial representation, discussing the spatial representation of musical pitch and how this spatial conceptualization of music is bodily grounded and represented through gestures (see Baily 1985 for the discussion of the spatiomotor thinking in performance). Today's "new multimedia" (Cook 2016, 188), such as film and YouTube, further highlight the multimodality of musical experience with internet technology. Thus, they even more increase the need

for cross-modal approaches in the study of music and the body. Yayoi Everett's chapter takes the experience of opera in its remediated form as film as a case and examines how audiovisual congruence induces the multimodal embodied experience of music. The multimodality of musical experience is more evident among infants and young children. Sandra Trehub's chapter investigates the multimodal music of early childhood in the ecological context of home and school beyond the laboratory settings (for a review of the aging body and music, see Halpern and Bartlett 2002). Youn Kim's chapter examines the historical emergence of the holistic conceptualization of listening by engaging in various discourses on seeing, hearing, and kinesthetics in the late nineteenth and early twentieth centuries. The relationship between music and the body is historically contingent.

Going back to the story of Frankenstein, the questions that the monster asked are not really about the main bodily organs of musicality. Asking about the relationship between music and the body ultimately led to the ontological question of "Who am I?" A similar scene is found in Jean-Philippe Rameau's acte de ballet *Pigmalion* (1748), set to a libretto by Sylvain Ballot de Sauvot. The sculptor Pigmalion creates a beautiful statue, which becomes vivified, sings, and dances. Just like Frankenstein's monster, the enlivened statue, Galathée, begins her song with a series of questions: "Que vois-je? Où suis-je? Et qu'est-ce que je pense? D'où viennent ces mouvements?" (What do I see? Where am I? And what do I think? From where come these movements?).[2] Both Galathée and Frankenstein's creature are linking their musicalities with their very existence. Questions about musicking bodies answer to "who I am" as an individual and further to "who we are" as a species. We have been doing music for such a long time in the evolutionary history. *Homo musicus*, the man who makes music, is believed to be even older than *Homo sapiens*, the man who thinks and reasons (Kirnarskaya 2009; see also Tomlinson 2015; Mithen 2007). This intimate connection between music and the body reminds us of the poetic question posed by William Butler Yeats in 1927: "O body swayed to music, O brightening glance, / How can we know the dancer from the dance?" As we embark on our journey to explore music and the body, we may likewise ask, "How can we know the musicking body from music?"

Notes

1. Bobby McFerrin's body percussion is one of such recent examples and historically we can also think of the extraordinary success of the French flatulist *Le Pétomane*, Joseph Pujol (1857–1945).
2. We thank Alexander Rehding for bringing our attention to this parallelism.

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PART I

THE MOVING AND PERFORMING BODY

CHAPTER 1

MUSICALITIES AND THE MOVING BODY IN WESTERN CONCERT DANCE

BYRON SUBER

Musicality and Dance

In the field of Western concert dance, what does it mean to say a dancer or a choreographer is musical? In the context of dance, being musical is part of the lexicon of dance analysis. The term "musicality" is not being used metaphorically but rather as a description of one of the many common facilities attributed to a dancer or choreographer. For most viewers, musicality is understood as an innate ability. Other examples of characteristics attributed to "inborn" proclivities are "good lines" (meaning the physical geometric lines of the body), or spatial intelligence, or a good memory for choreography. Innate gifts or talents are arguably learned capacities (Mauss 1973). But in dance, if learned at all, it is assumed to be an ability acquired outside of formal dance training. A dancer will usually only profess they are musical when they have been told as much by someone else. It is rare that a dancer or choreographer is self-aware of their own musicality. (An obnoxious exception to this rule is discussed toward the end of this chapter.) In the context of the perception or reception of dance, a viewer stating that a dancer is musical can be described as evidence of an aesthetic or learned experience. The viewer is most often understanding the musicality of the dancer or choreographer as something the artist has always possessed. Musicality comes across as an element the artist is embedding in the event of an embodied performance.

Rather than embark on a polemic about nature or nurture, this chapter focuses on the premise that the reading, in the form of a perceptual moment, is an assumption of musicality as innate. In other words, I am deciphering that moment when a viewer of a dancing body perceives a confluence of physical movement with the sound of some music that is playing, and the ways in which that viewer understands the musicality to

be something intrinsic to that individual dancer. (Confluence of movement and music can also take the form of dissonance (Buck-Morss 1977). (This topic is discussed to some extent later in the chapter.)

To ask more precise questions, what exactly is it about the physical movement that appears to be musical? Or rather, how exactly is the movement musical? Or, to propose a slightly more nuanced distinction, what specific moment in the physicality is perceived as confluent with what part of the music? Or, from the perspective of the music, what moment in the sound or music is being highlighted with the expression of physicality? And lastly, what musicality is being brought forward in the movement, a musicality that is not heard in the music but seen in the movement?

There are multiple ways of being musical or reading musicality when moving, or creating movement. This can be discerned or made evident in a casual social dance movement or in movement made specifically for presentation on a stage. In this sense, discerning movement and musicality is a form of communication and therefore can be understood as a form of learning. But what information is being transmitted and what or how is knowledge being formed in the act of audience reception? Thinking in terms of transmission and reception, it is helpful to think of any single moment within a viewer's comprehension of a confluence of movement and musicality as transmitting multiple messages on multiple wavelengths to multiple receivers (or audience members) with multiple possible interpretations.

To build even further on multiplicity by adding yet another level of production and perception, in a step removed from the group dynamics of social dance, or the audience-based reception of concert dance, striving for a particular musicality can be integral in the improvement of dance technique in the studio. In all these contexts, but most literally and intentionally in the studio, knowledge is transmitted. Knowledge formation by visual and audio observation, and the audience's simultaneous absorption of the information contained in physical movement and musicality differs from knowledge gained from linguistic forms of communication. Dance and musicality as a site of knowledge formation is therefore extralinguistic. Within the many nonlinguistic modes of communication in dance and musicality, there are various routes and mechanisms that while related, are distinctly different in schema and outcome.

Making and Understanding Dance

Sometimes movement is planned ahead of time, sometimes it is created spontaneously on the bodies of dancers in rehearsal, and sometimes it is improvised in rehearsal or performance. But dance as an embodied practice, the work of putting dance onto physical bodies, begins in the studio, through experimentation and repetition in a classroom (the process of training dancers in any particular style or dance technique) or the teaching and acquisition of choreography in the rehearsal room. These two sites of learning are different but related spaces of knowledge formation. And in a more extended relational

context, these pedagogic methods are related but quite separate from the processes of knowledge formation that can be achieved by both performers and audiences in the context of a live concert on a stage. For dancers, in any context, whether or not there is a goal of vocational expertise, knowledge is acquired, albeit through different paths. And knowledge formation that occurs for the performers in the concert form is related to, but different from, processes of knowledge acquisition for the audience.

To complicate these questions further, there are also countless ways to define the concept of music, especially as it relates to dance. These differences can be seen in trajectories that veer far from traditional melody and instrumentation. For example, in what are sometimes controversial moves, the use of silence and how the body responds to silence can also be understood in terms of musicality in dance.

Lacking some parameters, this inquiry could take the form of an interminable labyrinth. The framework for this examination takes the form of a specific site of physical movement creation, and one that most often engages with music in specific and illuminating ways. The first several of the preceding statements and questions are informed by the context of a specific tradition of physical movement creation, the context of Western concert dance. This chapter focuses on musicality as it is attached to the aesthetic principles that have emerged from the context of this formal aesthetic field, a tradition and trajectory that will continue to be defined throughout the chapter.

Western Concert Dance: A Brief History

To put it simply, Western concert dance is physical movement created most often for visual consumption in the form of a staged event. The tradition has its roots in aristocratic social dance in the courts of the late Italian Renaissance (Desmond 2003; Jowitt 1988; Kirstein 1984; Copeland and Cohen 1983). The form then became a mixture of social dance interfacing with presentational dance. In this form, concert dance was first codified in seventeenth-century France under the reign of Louis XIV. Over the following several centuries, the art form, now known as classical ballet, continued to develop as a uniquely individual embodied practice and to diverge into parallel and contrasting styles and genres. Ironically, classical ballet was formulated in the neoclassical (and baroque) period for music (along with other aesthetic forms such as neoclassical art and architecture). As the genre of classical ballet continued to develop into the eighteenth and through the twentieth century, the art form crossed national boundaries that included most prominently, Russia (and eventually the Soviet Union), England, Denmark, Germany, and the United States, each nation developing and claiming its own individual style. In the twentieth century, while classical ballet continued to develop globally, including national forms in China, Korea, and Japan, the neoclassical period in ballet emerged. Again, ironically, neoclassicism in ballet emerged coterminous

with twentieth-century modernist aesthetic movements in art and architecture. Also, modern dance developed as a mostly oppositional form of concert dance to that of the descendants of court ballet in the popular theater of the late nineteenth century. Some of the most notable diversions in these new dance forms were German Expressionist dance (Bergsohn and Partsch-Bergsohn 2003), American Modern dance (Manning 2004; Foulkes 2002; Burt 1998; Adshead-Lansdale 1994), and American Jazz dance (Valis Hill 2010; Sommer 1998; Malone 1996; Stearns and Stearns 1994; Giordano 1978).

At the same time, other related genres began to emerge in the realm of social dance. And as a theatrical form, in the last quarter of the twentieth century, hybrid forms such as American and European postmodern dance, German *Tanztheater* (Climenhaga 2013), and Japanese *Butoh* (Fraleigh 1999) stepped onto the global stage. Yet among this great diversity and contradiction to the world of classical ballet, certain tenets, particularly related to how the work is presented, viewed, and understood by audiences, have been maintained through many of these oppositional formations. In many ways, what is also preserved, or some may say, perpetuated, through privileged Cartesian perspectivalism, are connections to the original hierarchical structures that developed out of Italian and French aristocratic social dance. While many forms contest the structures of classical ballet, in terms of defining tenets of vision as Cartesian, components of early Western concert dance remain vestigially as a major defining principle of any style of presentational dance. The history of vision and visuality has been explored extensively in art, photography, and cinema (Foster 1998), and similar paths of inquiry are being applied to the very visual/auditory forms of Western concert dance (Lepecki 2004). Even in moments of revolutionary confrontation with those vestigial components, in a way, the original hierarchy is supported and maintained, upheld through what are sometimes revolutionary gestures of antagonism.

Dance or Not Dance

Before returning to the main topic of this chapter (the ways in which the moving body can be defined as musical) it will be helpful to define the term "dance" as it is differentiated from the broad concept of the "moving body." While some practitioners would consider any body movement a form of dance (including the movement of a camera without any visible body in sight of the camera's frame), it will be most helpful in the context of this chapter to limit our definition to dance that in some way relates to sound or music (or silence as a form or at least a component of sound or music) in an event-format where the movement is presented to an audience. From a twenty-first-century perspective, in reviewing the history of dance as an art form, it is difficult now to differentiate dance from what many understand as the common-sense opposite of dance, pedestrian movement. Postmodern dance (Banes 1987), beginning in the 1960s, in a strong move, included, and at times even focused on, pedestrian movement as a form of concert dance. For instance, Lucinda Childs work, "Carnation" (1964), a solo she created in 1964 for

the groundbreaking experimentalist Judson Dance Theater in New York City, consists mainly of her manipulating everyday objects such as pink hair rollers, green sponges, and a vegetable steamer. Performed in silence, this work in some ways broke through the hierarchy of virtuosity in dance, in certain respects, democratizing the field. This work may or may not have achieved that goal for every audience member, and for some that accepted these movements as dance, and for those that did not, they may see it differently more than fifty years after the premiere. In any case, it is necessary to use a broad (yet still specifically limited) definition for the concept of dance, a concept like that of visual art, a definition that hinges on the context of where and under what circumstances the action occurs. For the purposes of this chapter, we can begin by narrowing the field by determining what is not concert dance. I begin by looking at the contrasts and similarities between what can be understood as social dance as opposed to what can be understood as concert dance (both in performance and in training or rehearsal), remembering that concert dance is defined as a specific type of presentational performance.

Social Dance and "Bad Musicalities"

Consider first an example familiar to almost anyone: the occurrence of a body moving to music, an individual dancer in a social setting such as a social or school dance or a nightclub. A social or club dancer can be understood as being musical as they relate to the clear punctuating beat of pop music (see Bakan's chapter for more on this subject). But this relationship is rarely a one-on-one match of a single, clear, and emphatic movement occurring at precisely the same moment in time as a single, clear, and emphatic musical downbeat. Usually when one notices that a dancer in a club is musical, they are referring to a perception of that dancer as moving to the music in a way that is new and unique to the viewer and specific to that particular dancer. While you may hear of a group of people being experts at synchronization, you rarely hear of a group of people being described as musical. Although the dancer in question may be executing movements that acknowledge the downbeat, the musicality resides in the ways that the dancer moves into the downbeat and away from it, and then toward the next downbeat—the quality of the dancer's musicality resides in what they do in the spaces in-between the downbeats, not necessarily on the downbeat. Those physical actions can be endlessly variable with one dancer across a stretch of music, and between any number of dancers, on any given occasion. So, it is the dancer's individuality expressed in their own specific way of relating to the music that is more often being noticed as musicality and less that the dancer has a clear ability to keep time with the downbeat of each measure. But it is important to note that not being able to acknowledge the downbeat is clearly visible to an onlooker. This will be addressed more extensively.

So what is "good" musicality? It is difficult to determine the precise nature of good musicality precisely because of the nebulous and endless variations of pushing the moving body into, against, or even away from the certainty of the downbeat in unexpected ways,

a manner of individually punctuated, measured sonic tones. So perhaps we can more clearly move toward a definition of good musicality by defining the opposite: bad musicality. So then, what is a nonmusical dancer? To return to the example cited earlier, what is a nonmusical dancer in the social setting of a social or school dance or a nightclub?

Bring to mind the ubiquitous awareness of the cliché of the "bad" dancer at a wedding. Most have had the experience of watching someone who appears "to have no rhythm whatsoever." Familiar to many would be Julia Louis-Dreyfus's character Elaine Benis in the *Seinfeld* episode where, to the intentionally comic horror of everyone at a wedding, Elaine "kicked" off the dancing with what most can agree to be terrible nonmusical dancing.[1] Yet it is important to realize that Louis-Dreyfus, as an actress, developed this style of "bad" dancing consciously. The humor in this television episode resonates with the summoning of the archetype of a bad dancer, a symbol for all the bad dancers at all the weddings we have all been to at any point in time. In the *Seinfeld* scene, Elaine not only missed the musical downbeat but also had some awkwardly zealous movements that seemed to make everyone uncomfortable. That discomfort uncannily echoes in Western culture whenever social dancing occurs in any social situation. Simply stated, the "bad" dancer can be understood as being nonmusical, at least. But when using that parameter as a meter for comparison is everyone else then a "good" musical dancer? As stated above, being able to move to a downbeat is rarely a qualifier for a person to be considered gifted musically when moving to music. Consider our ever-familiar "bad" dancer: music is playing, and the playing of that music is why this person is moving. So, in some ways there is a confluence of physical movement to music, if only in the fact that the two events are intentionally occurring simultaneously in time and space. Is it just that this person is hearing the music differently than everyone else? If so, how then can we talk about this individual's musicality? What or how is that person hearing, feeling, or engaging with the experience of body movement as it coincides with music if the "bad" dancer is not moving to, with, or against the music? Perhaps, rather than being nonmusical, this "bad" dancer is simply relating to the music in an alternative way than what is comfortable for others, albeit in a manner that many may find unpleasant to watch.

This discomfort can be used to an aesthetic advantage. Many years ago, I was hired to choreograph a striptease for the actress Loretta Gross in the director Maggie Greenwald's 1989 film adaptation of a Jim Thompson novel, *The Kill-Off* (Greenwald and Thompson 1989). Loretta was a trained dancer, and I worked many hours with her to deconstruct her technique and sense of musicality to make her come across as an amateur dancer in the film. One of my main concerns was not only to get her to dance off the downbeat but also to have her approach the dance with a specific musicality that rendered her dancing unprofessional in appearance. Years later, I realized I had been heavily influenced in this effort by a subconscious channeling of Marilyn Monroe's portrayal of the character Chérie in Josh Logan's 1956 film, *Bus Stop* (Axelrod 1956). Both examples, if my unintentional homage was successful, created vulnerability in the character by having the dancing that each character performed come off as "bad" dancing. It was not an easy task to convince Loretta to commit herself as a failed dancer, to be

forever captured on celluloid. For both her dancing and my choreography, in the end, our achievements could be measured by our success at appearing as failures.

Concert Dance

Now, returning to a differently contemplated, or consciously developed, form of physical movement in confluence with music, I consider choreography or dance that is created for presentation on the stage. Like a film played in a cinema, one can posit that a dance concert occurs in a predetermined place, usually a theater intended for presentation. It begins at a stated time with a group of people gathering together to witness the performance as an audience. Usually there is a separation between the audience space and the performing space, most often with a single plane separating the two spaces in an actual or suggested proscenium plane. (Many smaller concerts have audiences on three or even four sides of the performing space, but this concept of "front" or presentation to the space in which the audience inhabits is deeply embedded in the event of any dance concert as it is in Western visuality.) There is a definitive ending to the presentation at which point (more often for live performance than for film) the audience communicates its appreciation (or lack thereof) of the concert with applause. Finally, the audience departs, marking the very end of the experience. But for live concert dance, unlike dance framed for inclusion in a film, this experience is an ephemeral one, an important distinction. The experience has longevity in the minds of the audience, in what the audience learned during the viewing experience and what they retain after it. Part of what can help with retention is how the physical movement relates to music, or in some cases how the movement intentionally disregards music.

In the many genres within the field of Western concert dance, in a dancer's performance, or a choreographer's creation of movement to music, musicality is more formally complex in how it connects to a history of visuality, how it is thought about, and the ways in which it is discussed. This is not to say that a club dancer's musicality is not complex; it is just that in Western concert dance, musicality, or absence of musicality, is an area of critical concern and discernment in ways that have received more consideration than in analyses of club dancing (although that is changing to some degree with the advent of deep analyses of pop culture; see Banes 1994). With a long history of formal analysis in concert dance, musicality is, or can be, addressed in this field from an abstracted, analytic point of view specific to the aesthetics required to create products in this field.

Although it was previously suggested that merely keeping a beat is not essentially a sign of musicality, in Western concert dance as a vocation, it is rare that a dancer is unable to keep time with the downbeat of the music. In some ways contrary to this earlier statement, not being able to simply keep time with the downbeat is a characteristic that is most definitely understood as nonmusical. Why this is a nonissue for concert dance is that a dancer who cannot keep beat with the music is one who usually will not make

it onto the stage of advanced or professional work. In part, it is because there is often use of unison movement, or unified movement, where dancers take musical or physical cues from other dancers. An individual's musical inability in this respect would be very visible. This inability can even result in the destruction of a dance work by offsetting the synchronicity of an entire piece.[2] So to some degree, it is safe to conclude that all advanced or professional performers in Western concert dance are musical in the simplest way one can define musicality; they can all keep a beat. Because of this, keeping a beat is rendered invalid in understanding a metric from which to judge the musicality of concert dance. Not to be too obviously general in summarizing, but all advanced or professional dancers can keep time with the music. So being called a musical dancer or choreographer in Western concert dance is a more complicated index of movement to musicality or music to movement.

Performance as Practice as Research

The following examples of Western concert dance do not constitute an exhaustive or even linear chronological historiography of dance and musicality. Rather, they represent a specific trajectory of knowledge formation that I have experienced myself, which therefore is subjectively experiential and not an objective discursive exposition. The works I cite are either works that I have seen several times or works I have actually performed on numerous occasions. Some of the works cited are pieces I have created myself, to perform myself, or to have other dancers perform for an audience. I do not cite any linguistic texts, although it can be argued that many of the works I refer to emerge from properly codified dance forms with components of movement that have been named and are put together in a way that can be compared to syntax. The word "choreograph" comes from the ancient Greek (when dance was never separate from music), meaning to dance/write, or to write with the body—ephemerally—in the air. But I stop here with linguistic comparisons and state that my response to these works is formed from knowledge gained from watching or performing these works, not writing or reading texts about them. This is an important distinction that relates precisely to my own way of hearing and moving to, or creating movement for or with music. Working under or beyond text raises a few questions that are not easily answered. What does dance, and/or music, or evident musicality in movement, do that text cannot do? What does musicality and movement affect that text cannot affect? What does a musically movement-based experience provide that text will never be able to provide? What is made clearer by watching a dance (that is considered to be musical) that can never be clarified by reading text? And what guidelines or level of analytical rigor can we access when looking at and interpreting movement while hearing or listening to music? The point here is to validate receptivity of music and dance as a different path of knowledge formation that is not just on a par with textual analysis, but at times, necessarily replacing it. That said, I continue here by writing with words about music and dance.

Musicalities of Ballet and Modern Dance

For this chapter, when I first began considering complex musicality in Western concert dance, my thoughts immediately turned to Suzanne Farrell, former prima ballerina in the New York City Ballet (NYCB; Farrell and Bentley 1990; Kirkland and Lawrence 1986; Ashley 1984; Bentley 1982). Farrell was the most renowned muse of the Russian American NYCB founder, director, and choreographer George Balanchine. Farrell had a unique way of addressing music. Particular to Farrell, her musicality has not been replicated by any other dancer performing in those same ballets. In Balanchine's work, Farrell would push movements to the very end of the musical measure forcing a quick physical transition, sometimes so quick as to render any transition imperceptible to an audience. Her sense of movement was affected by this risky relationship with almost missing the downbeat and her body moved not in response to the exigencies of staying in time, but rather by pushing far beyond it. The specificity of her musicality was but one innovative aspect of her individuality as a dancer. She also had a tendency to work physically off-balance in a way that no other dancer has ever quite been able to replicate. She made the choice to reorient the lines of her body in ways that are still anathema on most dancers' bodies but for Farrell's body, it was a part of her individually intrinsic style of expression. Along with her unique musicality and several other aspects of her performing body, Farrell stands out as a genius in the dance world. Her unique relationship to movement and musicality created a Suzanne Farrell mystique that remains unapproachable in the field of Western concert dance.

Her mentor, George Balanchine, a neoclassical ballet choreographer was also known for his unique musicality, but as a creator, not a performer of dances (Gottlieb 2010). One of his choreographic works, *Concerto Barocco* (Balanchine 1948), used excerpts of music by Johann Sebastian Bach. Some of the selections were the same excerpts that his contemporary, Paul Taylor, a modern dance choreographer, used in his contemporaneous work, *Esplanade*. As a member of the Hartford Ballet, I performed both *Esplanade* and *Concerto Barocco* in the same performance on several occasions. Audience members rarely detected that the same music was being paired with different physical movements of the dancers in each work. It was because each choreographer heard and addressed the music so differently from the other. For instance, while both Balanchine and Taylor utilized the body's negotiation with gravity, they each addressed that negotiation in vastly different ways. In both cases, each choreographer's engagement with gravitational pull brought out very different aspects of the same pieces of music. In another example, *plié*, or the bending of the knee, was used by Blanchine as a way to sometimes emphasize the downbeat while remaining in full supported suspension away from gravity. At other times, to the same music, Balanchine uses the *plié* to move toward a full *relevé* at the accent of the downbeat, emphasized by a suspended balance *en pointe*, the highest physical position made by a ballerina without leaving the ground. In a very different

way, Taylor used the *plié* in sustained runs that glide the body across the floor with a strong and smooth connection into the ground. As a third example, each choreographer used counterpoint and canon in ways that reflect the counterpoint and canon in musical moments. While Balanchine's movements often revealed micro-canons in the music that would not be as apparent when played alone, Taylor focused on the more apparent musical canons that might be easily heard when listening to the music without physical accompaniment.

Taylor's work can be seen as a contrast to Balanchine's work, while Balanchine's work can be seen as an extension and development of his Russian imperial predecessor, Marius Petipa. Petipa's choreography, most often to music by Peter Ilyich Tchaikovsky in such familiar ballets as *Sleeping Beauty, Swan Lake*, and the *Nutcracker*, brought out musicality in less complex but still surprising ways. Lilts in the melody would be repeated in the movement but in physical enchainement that would combine surprising strings of steps (Vaganova 1969).

In all of these examples, the choreographers' works are musical by giving attention to, and affirming, apparent melodies and different relationships to marked time, but the question can be asked as to whom and how those melodies are apparent. These questions are more easily answered when the music and dance confluence is actually seen and interpreted by a viewer. It is impossible to describe adequately in text. One must see (not read) to learn. But it remains that, even if seen, there is not only one definitive answer. Differences of choreographic and viewer interpretations are limitless.

Musicality from the Inside

I have been told at numerous points in my career, first as a dancer, then as a choreographer, and again as a teacher, that I possess a very different musicality than anyone else. I have never had an intention of being different in how I hear and then physically express music. Admittedly I do work toward innovation in movement creation, but never does it occur to me to try to hear music in an innovative way. I have noticed that when I try to read the sheet music while listening the music, the geometric patterns on the page suggest something entirely different to me than when listening to a musical selection alone for any number of times. When reading sheet music, the process to me becomes so mathematical and complex and so predetermined that my choreographic process is to ask for physical acumen that is unattainable. I work best when I listen to a musical phrase, then respond to what I have just heard. I also create music entirely apart from any specific music and add different pieces of music after the choreography is completed, getting different physical responses from my dancers for each different musical configuration. I have explored this difference in a work that spanned across three nights, with a slightly different performance each night. The work was titled *The Breaking Series*. Using the music of Arvo Pärt, Olivier Messiaen, and Béla Bartók, for three performances, I changed which piece of music accompanied which set

choreography for each night's performance. In terms of musicality, the dancers reacted differently each night while performing the same choreography but responding to vastly different musical accompaniment.

My own response to music usually has to do with how I hear a melody or what I hear in a melody. Sometimes it is a specific dialectical pairing of certain instruments together that produces an aural reaction in my musical sensibilities. When I try to dismantle music by looking at the way the music is written on paper, by delineating specific musical notes, or when I try to determine what exact notes are being played by any particular instrument, my ability to hear the music as a whole disappears to the point of choreographic immobilization. Additionally, my choreographic response to music can change if another musician plays the same piece of written music. I have often choreographed specific movements to a specific recording but when the same piece of music is played live, or if another recording is played, the original movement loses much of its power of confluence. This is not to say I do not enjoy and appreciate live musicians, but that is another way of choreographing and presenting music and offers a different type of knowledge formation for both the performers and the audience.

Other Musicalities: Other Politics

There are many other ways to create musical choreography. One can also attach to and reiterate clear rhythmic patterns that support, but are apart from any apparent melody. Sometimes this can come across as a fugue of movement as an additional group of layers to the layers of music. Sometimes the most apparent association is highlighting very contrasting melodies (some in the music and some in the movement). All of these methods work to democratize musical and physical spatialities. As I slip into a discussion of political metaphors, dance and musicality as a site for knowledge formation becomes less abstract and more symbolic. Movement and music each separately act as a conduit for knowledge formation, and when put together as a more complex creative form, they have an even more complex agenda to decipher. Resorting to simpler methods of expression does not necessarily result in a simpler message.

Even though I have opined that focusing on the downbeat as a method of choreography is not necessarily musical, in some instances, it is mostly, or exclusively, how a choreographer steers attention, creating a spatiality that can be read in absolutist or uncompromising ways. Comparatively, the more complexly physical movement engages with or against music, the more democratic the space becomes. A tendency toward downbeat punctuation, or in opposition to downbeat punctuation, both ends of this polarity can be understood as being deeply political or ideological. For instance, in some genres, such as competition dance, a genre of which I am readily critical, at use is an extremely codified dance vocabulary that is closer to sport than art, competition being a defining term for the genre. In competition dance, downbeat punctuation and codified

or habitual tendencies of moving between the downbeats is a defining element. This codification can be quite powerful but can also lead to movement that is interpreted in ways that can be described as militaristic. Comparisons can be drawn between the affect this kind of dance promotes for an audience and a similar affect, or populist pleasure, that can be derived from nationalistic spectacles created by authoritarian or totalitarian regimes. If my assessments here appear as overindulgent criticisms, it is important to consider other contexts in which these competition dances are composed and presented. Consider what elementary, but incredibly complex, social identities are being portrayed in these formations. Also consider to what groups these performances are catering. Issues of gender, race, class, and sexual identity are explicit in these representations and must be included in a critical analysis. These connotations can be problematic for a choreographer whose goal is explicitly oppositional to the dominant sentiment of competition dance, a sentiment that I propose borders on a fascist aesthetic. Problems can arise in choreographers that only hear, or choose to only listen to the downbeat. It is an ideological problem in the ways that listeners polarize movement into moments of stillness and repetitive cadences, creating absolutist on-and-off statements about cultural movement and spatialities. And more simply, choreographing or moving only to the downbeat quite literally confirms preconceived ideas. One such idea is the concept that an audience already possesses all the knowledge it needs in terms of understanding movement and musical interpretation. This motion flattens the potential of what bodies moving to music can teach us as choreographers, performers, and audience members, both as local and as global citizens.

Returning to a more comfortable or less ideologically challenging approach, the abstract application of knowledge formation, a moving body can unlock musical gestures that would be unapparent before pairing the music with a particular movement sequence. In contrast, it is possible to be musical by going completely against the music or by pairing the music to the movement arbitrarily, as I did in my *Breaking Series* mentioned above. This was the method of many of the collaborations of choreographer Merce Cunningham when working with his life partner and artistic collaborator, the composer John Cage (Brown 2007). Sometimes the dancers in these works would never hear the music they would be performing to until the actual performance. Often, that music would be entirely different from subsequent performances of the same choreography. This was just one aspect of a game of chance used by Cunningham when creating dance. *Chance Dance*, being the nomenclature chosen by Cunningham himself, was not as arbitrary as it seemed. Cunningham and Cage shared so much of their personal and professional lives, they were bound to create moments of confluence in their aesthetic sensibilities. These confluences would merge and emerge, even without conscious planning. The movements and music would appear to be spontaneous when in fact there was a shared aesthetic methodology at work.

More dissonant a connection of dance to music is movement created to music emerging from the tradition of atonal musicality, which is one way of challenging an audience's habitus of how they hear music and then how they hear music and see

dance to that music. Although apocryphal, the premiere of Vaslav Nijinksy's choreography to Igor Stravinsky's *Rite of Spring* was said to have caused riots when premiered for a 1913 Parisian audience (Eksteins 1989; Garafola 1989). Combining uncomfortable, and even revolutionary music and movement was just too much for the audience to bear.

Moving from dissonance to absence, a choreographer can reject music entirely in the creation of movement (or even stillness) to silence. John Cage created a musical piece titled *4′ 33″*—four minutes and thirty-three seconds of silence to be "not" played by any number of musicians sitting before various types of instruments. The choreographer Paul Taylor choreographed a staged version of this work in 1952. His work titled, *Duets*, consisted of a male and female dancer standing still on stage to silence for four minutes. In a humorous antitextual response to the work, Louis Horst published a review of the piece for the *Dance Observer* that consisted of four inches of blank space sandwiched by the time and place of the performance at the top of the page and Horst's signature below the blank space on the page.

Silence as Music

I have mentioned silence several times as a form of musicality with dance but how exactly is silence musical? Apart from the sounds that are made by instruments or voices in a traditional melodic piece of music, the duration of the music, and on a micro-level, the duration of silence between notes, combine to make the musical patterning. A pattern is not sustaining or repeating an unbroken note. It is when the monotone or repetition is broken in some way that a pattern is created. A note played continuously for four minutes and thirty-three seconds without a break or a rhythmic ground level, is more challenging for an audience to witness than silence for the same amount of time. In Cage's *4′ 33″*, the sounds of the room, audience members shifting in their seats, mechanical sounds from an air conditioning system or elevator moving in the building, sounds that would usually go unnoticed, and other seemingly arbitrary noises create a pattern and a type of melody. This experience of listening to silence teaches an audience to question what they understand to have been music up until that point and what they will understand as music from that point and after.

Off-Setting Movement and Musicality

For a more recent postmodern example, William Forsythe is an American choreographer who has worked mostly in Germany, only recently returning to the United States to call it his home again. His work in the last thirty years has moved classical ballet as