Music and Motion

I. INTRODUCTION

Even a casual examination of the activities and practices of human society illustrates the simultaneous occurrence—sometimes partnership—of music and motion. In this paper, I will explore these relations and ask: How have simultaneous occurrences of and partnerships between music and motion been discussed? Are the conclusions of these discussions well grounded? Do they provide a complete account of the relations between music and motion? In addressing these questions, I will argue for six main theses. First, music is partly constituted by motion in the sense that the constitutive element—in this case, motion—gives rise to the constituted element—in this case, music. Second, there are abstract motion–blueprints for motion, which are potential, and there is concrete motion, which is actual. Third, abstract motion–blueprints involve a reference to rhythm but are not rhythmic themselves, while concrete motion in music is quite often, if not always, rhythmic—I define “rhythm” as recurring stress, release, and other repeated functions of entities. Fourth, music often involves concrete motion, and it is quite often, if not always, rhythmic. Fifth, abstract motion–blueprints and concrete motion can be and often are involved in music performance. Sixth and finally, the relation between concrete motion and music is not unidirectional but bidirectional—i.e., the two do not exist in isolation from each other but instead coexist interactively. I will call this a “constitutive relation” and will discuss the reasons why it is a plausible and useful understanding of the relationship between music and movement. Throughout this paper, I will focus particularly on exploring the many ways that music and motion are interconnected. Specifically, I will look to the field of dance—an artistic field in which motion and music are simultaneously on display—as a prime instance in which music and motion relate to each other. I will next turn to a discussion of the depth of this interconnection.

II. TRADITIONAL CONCEPTIONS OF THE RELATION BETWEEN MUSIC AND MOTION

Accompaniment:

The link between music and motion is evidenced in the practical relation between music and all, or nearly all, forms of dance. In particular, this link is seen in instances of teaching dance, engaging in social dance, and performing choreographed dance. Dance education, for example, regardless of genre and level, pairs with and requires knowledge of music. Consider a standard ballet class, consisting of exercises for strengthening and stretching the body. These exercises are executed in a specific order and in specific places in the dance classroom. Dancers work, first, at
a ballet barre; next, in the center of the room; and finally, across the floor in a variety of patterns. The exercises in a ballet class are ordered specifically, with the intention of targeting muscle groups in such a way that they are strengthened and, at the same time, successively presented with more demanding movement tasks as the class progresses. Each exercise, which is a study of individual and serial codified steps, needs to be performed with the correct direction and dynamic if a student is to learn the proper manner of executing the steps and, simultaneously, fortify his or her body as intended. The same is true in the case of codified dance genres other than ballet, e.g., the techniques of Lester Horton, Martha Graham, José Limón, Katherine Dunham, and others.¹

As for the role of music, it is commonly claimed that music serves dance as a type of accompaniment; so the relation between the two is what I will call the “accompanist relation.” It should be noted that the rhythmic, dynamic, and tempo-based influences of music are not the only means by which music is and has been used to accompany, supplement, and likely enable dance instruction and performance. In many cases, the type of instrument used to accompany a given dance class can and does bring about a particular movement quality from dancers. This is evidenced by the fact that at virtually every ballet school, ballet classes are taught with live or recorded instrumental accompaniment, with the resulting physical effect that the students produce appropriately staccato, legato, allegro, adagio, and other types of movements. Likewise, the study of Horton technique is traditionally accompanied by one or several drummers, in effect encouraging a percussive and precise quality in the movements executed by students. In summary, the specific effects that musical instruments have on the dances they accompany can be found in most if not all instances of dance instruction and performance accompanied by music.

The role of music as accompaniment and teaching tool is perhaps most clearly apparent in observing the teaching and learning of dance. In such cases, music encourages students to engage in organized movement. The aforementioned conception of the relation between music and motion is, then, one that places music in the service of movement as an accompaniment that serves to encourage and/or enable motion. As previously indicated, I call this the accompanist relation.

Independent Parallelism:

A second type of relation between music and motion is what I will call “independent parallelism.” It is illustrated most clearly in the artistic work of dancer Merce Cunningham and composer John Cage. Cage and Cunningham worked together from a shared, foundational principle that music and dance should not simply enable or frame one another.² Cage, who was interested in chance and chance operations, composed musical works that explored the notion of chance and, by and large, were subject to chance themselves.³ Cunningham shared Cage’s interest in chance operations and the artistic possibilities that stemmed from their use. The dance works that Cunningham created were concerned with dance itself.⁴ Together, these two artists created famous and controversial works, several of which addressed the relationship between music and dance. The conceptual basis and inspiration for these works resulted from the innovators’ conceptions of dance and music as things that might and did occur simultaneously, but that ought to be created separately from one another. In keeping music and dance works independent but performing them in parallel, Cage and Cunningham aimed to make it possible for viewers and listeners (including the performers) to appreciate the music and the dance independently, as well as simultaneously.⁵
Enablism:

The accompanist and independent parallelist accounts of the relation between music and movement may not be the only relationships between them. Music is often understood by way of and perhaps even because of motion.\textsuperscript{6} In fact, this approach to music is frequent in psychological studies of the subject. An analogous approach can be found in physics scholarship.\textsuperscript{7} Along similar lines, some philosophers approach a discussion of music through what is sometimes called the moved or moveable nature of music. Aristotle, for example, in trying to account for his view that all arts are imitative, stated that music imitates with the media of rhythm and harmony, whereas dance imitates with rhythm.\textsuperscript{8}

These characterizations and discussions of the interconnections between music and movement are, in many cases, both plausible and useful in philosophical and artistic senses. Music and movement indeed are inextricably linked, but the musical, locomotive, and philosophical implications of this link have too often, if not exclusively, been explored in a one-sided fashion by academic theorists and scholars.\textsuperscript{9} The discussion has centered on what motion can and does do to enable music and on how to understand this in practical and philosophical ways. Indeed, the scholarship has sometimes extended to investigate psychological causes, such as the emotions. I call this relation “enablism.” It is unidirectional—going from motion to music—and not bidirectional—going from motion to music and vice versa. Enablism has been criticized by those who argue for an autonomous view of music, for example Eduard Hanslick, whose work I will discuss next.

Hanslick’s Conception of Music:

Hanslick’s \textit{On the Musically Beautiful} is a quintessential example of philosophical work that explores some aspects of the controversy between those that hold the autonomous view of music—that music is subject to or resultant from ends and laws internal to itself—and those that hold the heteronomous view—that music is subject to or resultant from at least some ends and laws external to itself. In addressing this controversy, Hanslick’s book attempts to explain or at least outline specifically what is occurring when music is taking place and, further, what components make up those occurrences.

In general, to say that an action is heteronomous is to say that the action is subject to and perhaps even the result of ends and laws external to the action. For example, a heteronomous view of human behavior may suggest that the way people act has to do with certain laws or rules external to them and, yet, informant to their actions. By contrast, to say that an action is autonomous is to say that the action is subject to or resultant from and only from ends and laws internal to it. Thus, an autonomous view of human behavior might suggest that certain informant rules and laws, which are intrinsic to acts themselves and/or the acting agent, dictate those acts. In other words, the autonomist perspective does not consider nor involve external regulation and influence—it is self-ruled. Hanslick’s musical concerns are linked to this distinction, as he sees traditional conceptions of music as heteronomous and, therefore, incorrect.\textsuperscript{10} Specifically, Hanslick points out that it is traditionally claimed or assumed that music “has to do” with the emotions, either by way of causal evocation or representation.\textsuperscript{11} In other words, according to Hanslick, the traditional understanding of music is that music is involved with something external to itself, namely emotion; i.e., music is understood by way of a heteronomous emotionalist perception.\textsuperscript{12}

Hanslick rejects both the causal and the representational version of the heteronomous emotionalist conception of music and offers the alternative: an autonomous conception of music.
This is a view of music that is intramusical.¹³ Hanslick argues that, instead of emotions, music consists of and is constituted by tonally moving forms.¹⁴ He is precise in his characterization of what may or may not count as one or a collection of tonally moving form(s), allowing the term “tone” to apply only to pitched sounds.¹⁵ So, by characterizing music as that which consists of tonally moving forms, Hanslick means that if and when music is present, then tones are moving through and within dynamic, rhythmic patterns.¹⁶ Hanslick argues that these involve dynamic relations that are and also contain musical ideas produced and conceived of without external impetus or purpose; if some auditory or audible event consists of anything other than musically sourced tonal relations, then, for Hanslick at least, that event is not music.¹⁷

On Hanslick’s autonomous conception of music, freedom and self-determination as applied in his demarcation of music’s limits provide music with self-sufficiency and independence. Yet, as I shall argue, he has ignored a crucial external influence—that of the moving performer. Before discussing this influence, however, I will next describe where Hanslick’s view and mine coincide. Hanslick states that music consists of tonally moving forms—here emphasis is placed on the active nature of the constitutive elements of music he identifies. The musical ideas that Hanslick allows for in the constitution of music are, as he states, dynamic and rhythmic. The musical ideas do not remain stagnant and, if they did, that would be characterized in terms of movement and rhythm as well, as in the case of a rest or pause.¹⁸ For Hanslick, then, music and movement are necessarily linked.

Hanslick’s notion of the content of music, i.e., tonally moving forms, strongly supports the notion of a connection between music and motion. By virtue of his plausible account of music and motion being related in some capacity, we arrive at this paper’s first thesis: music is partly constituted by motion in the sense that the constitutive element—in this case, motion—gives rise to the constituted element—in this case, music.

Might, however, this and other philosophical and artistic discussions of music be limited somewhat by the fact that the interconnection between motion and music has been explored in a rather one-sided, unidirectional way? Likewise, might the philosophical and artistic discussions of motion be just as limited by the unidirectional understanding and resulting study of the link between music and motion? I will next address these questions by exploring the interconnection between music and motion while avoiding a unidirectional mode of understanding this interconnection.

III. HOW DOES MOTION CONSTITUTE MUSIC?

Hanslick’s position on the contents of music does not treat movement as an activity with means, ends, and rules. Instead, he uses the term “movement” to refer to dynamism and rhythm. Hanslick considers the performer to be an unnecessary and often problematic extension of the complete musical work, i.e., the composition as created by the composer. It is at the composer that Hanslick stops the creative musical process. Hence, his conception of the term “motion” does not address the moving body of a performer, say for example, the moving body of a pianist or a violinist as he or she plays any composition.

In eliminating, or at least disregarding, the role of the moving performer in music, Hanslick misses something about movement and its role in music—in fact, even about its role in the composer’s creative process. He defines the content of music as tonally moving forms and, thus, reveals an extremely abstract conception of the role of movement in music. The movement Hanslick allows for in music merely could be made audible, but it does not have to be.¹⁹ Hanslick’s claims imply that there is an abstract form of motion that enables a person to compose music. This provides the basis for his claim that composed music is complete once created, a
process that Hanslick grounds in human imagination. That is, imagining a musical composition, as described by Hanslick, is much like following a blueprint for music that could but does not have to be played. Even though playing music involves concrete movement—even electronic music is played by moving artifacts guided by computer programs—the movement involved in Hanslick’s conception of a musical composition is not concrete movement but merely a blueprint for movement. It moves persons to a place where playable music is possible, but is not played. This leads to this paper’s second thesis: there are abstract motion—blueprints for motion, which are potential, and there is concrete motion, which is actual.

Now, a blueprint for music and movement, which music would involve if it were played, is identical to music and movement just as much as a blueprint for a building is identical to a building, i.e., not at all. Nor would this blueprint for music bring about or otherwise enable motion in the concrete physical world. In fact, throughout the creative process, a composer develops a musical composition through conceptualization along with actually playing it or parts of it. Even Ludwig van Beethoven, after he became deaf, is reported to have put his ear to the floor and played parts of his work on the piano with one hand in order to test whether it actually sounded as he imagined. Furthermore, it is not unusual that after having declared a composition complete and having played it or heard it played, a composer revisits it to make changes. That is, actual performance and concrete movement are crucial to music in a manner Hanslick’s account excludes. This raises various questions: How is concrete motion related to music? Does it just happen to occur in parallel to music, or is motion linked to music in a more substantial way? How else might motion be linked to music? I will next address these questions.

IV. WHAT IS IT FOR MOTION AND MUSIC TO BE RHYTHMIC?

Given the preceding discussion, concrete motion is central to music. By “concrete motion” I mean any change of place or position that occurs in the physical world, e.g., the moving hands and arms of a violinist when he or she is performing music. Hanslick excludes motion from his conception of music, but he in no way claims that it does not exist. In fact, he explicitly addresses the noticeable moved and moveable nature of music in his discussion of the rhythmic elements of nature that, for him, are musical, but not music. Hanslick makes a particular point of acknowledging the presence of rhythm in nature where the term “nature” is roughly understood to mean all physical and biological objects, states, and events, as well as more complex objects, states, and events resulting from these. The point of Hanslick’s discussion of this topic is to establish his claim that music is not found in nature.

Despite his view that there is no music in nature, however, Hanslick’s acknowledgment of rhythm in nature opens the door to investigate the possibility of the presence of a musical element in nature. I ask: Could rhythm be a musical element in nature? What sorts of things in nature have rhythm? Further, what is rhythm? Tentatively, let us conceive of rhythm as a recurring pattern of activity, as recurring stress, release, and other repeated functions of entities. On Hanslick’s abstract conception of music, rhythms would be the recurrent abstract patterns of stressed, released, or repeated activity in nonperformed, complete musical works (like blueprints) that can be accessed through the imagining process. On this view, abstract rhythms would be blueprints for tone positions on musical scales at different times. On the other hand, concrete rhythm is physically embodied. We in fact find it in nature in a great many visual, auditory, and tangible ways that can be accessed with the sense organs—from tapping with one’s fingers on a table, to tapping with one’s foot on the floor, to walking at a given pace on the street. Isn’t this sufficient to say that, as long as there is rhythm in some natural processes and since music (or much music)
has rhythm, there is music in some natural processes? Not for Hanslick who, as we saw, considers natural processes in general, and musical performances in particular, to be extraneous to music.23

As I previously argued, however, music is not a mere blueprint from which music could be but need not be played. To summarize my argument so far, music includes its performance both in its creation and intent and, typically, in its consequent presentations. Hence, music involves concrete motion. Since concrete motion in music often includes the recurrent stress, release, and other functions of entities, it follows that concrete motion, and also the music it constitutes, is frequently rhythmic. This essay’s third and fourth theses follow: abstract motion—blueprints involve a reference to rhythm but are not rhythmic themselves, while concrete motion in music is quite often, if not always, rhythmic itself—where “rhythm” is understood to mean recurring stress, release, and other repeatable functions of entities. Rhythmic, then, is understood to characterize anything that recurrently experiences stress, release, and other functions of entities. Thus, music involves concrete motion, and is therefore quite often, if not always, rhythmic.

Various questions arise from this discussion: Is all motion then musical, by virtue of the relations between motion and music? Or is some motion simply amusical? Can music and noise be mutually distinguished on the grounds that noise is a random sound pattern like, e.g., that of radio interference? What, if any, role does silence play in all this? I turn to these questions next.

V. CONCRETE MOTION, CONCRETE MUSIC, RHYTHM, AND TONE

Is all concrete motion rhythmic in the sense of being a regularly recurring pattern of activity? Concrete motion involves the instances of movement that occur in the concrete, physical world, i.e., various stresses and releases, push and pull, and the like. Some of these are recurrent and hence rhythmic. Others are not, e.g., a single-sound birdcall made by a bird that immediately, rapidly, and silently flies away. Hence, though some concrete motion is rhythmic, not all concrete motion is rhythmic.

The question remains: Is nonrhythmic concrete motion music? Since, as I have argued, music is often, if not always, rhythmic, those one-time, sound-producing concrete motions will often, if not always, be something other than music. But could they sometimes be music? This raises a further question: If not always rhythm, what else can distinguish music from noise understood as a random sound pattern? Arguably, this question can be answered by appealing to Hanslick’s conception of the constituents of music. As mentioned, he holds that music involves rhythm (a view our previous discussion finds generally but perhaps not universally true), and also some tonal sound pattern. Now, such patterns are structures embedded in various ways in musical performances. Indeed, musical performances are structured somehow or other by rhythm alone, by scales alone, or by both rhythm and scales (such as modal scales in modal music, say, in Gregorian Chant or flamenco music; by tonal scales in tonal music, say, in work by Wolfgang Amadeus Mozart; by a variety of series of tones in serial music, say, in a dodecaphonic work by Claude Debussy, and even by a single, unchanging, lasting tone, say, in an electronic music composition). Bongo drum performances are structured by rhythm alone! Flamenco music is structured by both rhythm and scales. Gregorian chant is arguably less rhythmic, but it is music because it is structured by modal scales. And even when tones are not rhythmic, they still help distinguish music from noise. However varied, these performances are not merely random sound patterns, and the presence of such structured patterns arguably establishes a central difference between music and noise. This distinction helps further distinguish musical concrete motion from nonmusical concrete motion—in other words, musical performance and nonmusical performance respectively. Questions arise: How are the structured patterns characteristic of music involved in
musical performances? How do motion and music interact in these performances? I will next turn to these questions.

VI. MUSIC AND MOTION IN PERFORMANCE

The interaction between music and motion extends to performance and, in addressing this interaction, it is perhaps best to look first to he or she who is doing the performing—the musician. Philosopher and jazz musician Philip Alperson provides a clear and plausible argument for the claim that the musical instrument—a concrete entity that is played by the musician using a combination of structured concrete motions—is an integral part of the development of music itself and thus a necessary component of an understanding of music. He identifies what he calls the commonsense view of musical instruments—i.e., the view that musical instruments are “devices that performers use to make music.” For Alperson, the commonsense view of musical instruments suggests that “musicians take these objects and, by holding them, hitting them, blowing through them, plucking and scraping them, pressing on keys, and so on, produce the sounds of music.” He goes on to reject this commonsense view on various counts, and suggests an alternate conception of musical instruments as “necessarily embodied entities.”

Alperson points out that “the relationship between the musician’s body and the instrument is so intimate that performers go to extraordinary lengths to find and keep the instrument that becomes one with them, an instrument that provides, for example, the right balance between ease and resistance to produce quality of tone, the tonal attack, the variability of intonation, the speed and range of vibrato, and other aspects of musical production and expressiveness;” and he adds that this is what is often referred to as the “fit” between performer and musical instrument. This strong connection between performer and musical instrument is evidenced by the fact that, when a musician plays music, the distinction between the body and the body of the instrument does blur, if not disappear to some degree, as in the case of a vocalist.

This account of the embodied nature of instruments concerns how these instruments come to be embodied, i.e., through their being played by bodies. In other words, the performance of music with musical instruments played by musicians involves a crucial personal role on the part of the performer—he or she actively plays the instrument with his or her pressing, pushing, pulling, or pounding body movements and purposed breath patterns. The musician performs music in large part because of instances of concrete motion that manifest in and from him or her.

Music performance does not solely involve concrete motion, however, since the musician and his or her embodied instrument are conceptually aware of the dynamic and direction of the music he or she is performing. The musician and musical instrument are guided by an abstract, more or less outlined, motion blueprint—arguably more detailed when playing one of Johann Sebastian Bach’s fugues and less when playing jazz. The blueprint is like a map of potential rhythms that can only be actualized in performance. These potential rhythms are then made actual, when the instrument is played, by the concrete motion of the musician’s body and by the embodied musical instrument. From the previous discussion, the fifth thesis of this paper follows: abstract motion—blueprints and concrete motion can be and often are involved in music performance.

VII. CONCLUSION: THE CONSTITUTIVE RELATION BETWEEN MUSIC AND MOTION

Even after the preceding discussions of sound, rhythm, music, and motion, the question still remains: is the relationship between music and motion a necessarily unidirectional one? Given
the conclusions that have been reached so far, it seems that the answer to this question is negative. The relationship between music and concrete motion is not unidirectional, though it has been and often is considered to be that way. On the contrary, it is a bidirectional relationship, i.e., one involving a constant interaction and exchange between music and motion. In other words, the relationship between music and concrete motion is not causal, but correlative and thus constitutive. I now turn to further discuss this claim.

It has been argued throughout this paper that concrete motion is often, if not always, rhythmic, in that it consists of recurring stress, release, and other repeated functions of entities. Likewise, throughout this paper, an adjacent claim has been made that concrete motion in music is often, though perhaps not always rhythmic (e.g., not in some electronic music) in the same sense. Furthermore, as made plain by the preceding discussion of the relations of music and motion and realities of musical performers and performance, music is inextricably linked to performance and hence to concrete motion and its interaction with abstract motion—blueprints. In particular, I have argued that, through rhythmic and scale patterns, some instances of concrete motion constitute and are constitutive of music.

This constitutive connection of motion and music is a significant aspect of the music-motion relation. It is, in fact, a particularly notable part of the relation because it presents the possibility that not only is music concretely moveable and concretely moved but also that concrete motion is musical and, in many cases, music. From this discussion follows the sixth and final thesis of this paper: the relation between concrete motion and music is not unidirectional but bidirectional—i.e., the two do not exist in isolation from each other but instead coexist interactively. Music cannot exist without the motion of performance, and motion often involves rhythm and other patterns that make it musical. The relationship between music and motion is one of interactive coexistence. I propose that this type of relationship be called a “constitutive relation,” where “constitutive” describes the nature of any entity that is a central element or ingredient of some other entity that, in turn, is a central element or ingredient of the first.

One positive consequence of the approach outlined in this paper is balance. Recognition of the bidirectional, constitutive nature of the relation between music and motion allows for a broad notion of what is musical in the world—from the rhythmic sound of a waterfall splashing on the rocks below, to the rhythmic sound of the railroad tracks when a train passes by. At the same time, it avoids the exaggeration of considering any combination of sound, however random and cacophonous, to be music. The sounds of radio interference, the sounds produced by someone accidentally bumping into piano keys, quite simply, are noise. Of course, they could be included in musical compositions (as in musique concrète) to constitute music; but in and of themselves, they are noise.

VIII. POSSIBLE EXTENSION AND EXPANSION OF THE CONSTITUTIVE RELATION

Neither music nor motion serves as mere accompaniment for the other. To conceive of the relation of music and motion to be one of independent parallelism is no doubt conceptually and physically possible, but, despite the efforts of Cage and Cunningham, this has not been the historically typical manner in which music and motion have been encountered. Instead, I have argued, it is far more accurate and useful to conceive of the relation of the two as exactly what it is: a constitutive relationship in which the natures of both music and movement are formal elements or ingredients of one another, thus establishing their coexistence as necessarily interactive. This understanding should help us free ourselves from unilateral limitations and, in this manner, continue to compose, play, enjoy, and appreciate music.
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