

**Uncorrected Proof. DO NOT DISTRIBUTE**

# Enacting Musical Time

*The Bodily Experience of New Music*

MARIUSZ KOZAK

**OXFORD**  
UNIVERSITY PRESS

# Contents

<i>Acknowledgments</i>	ix
Introduction	1
Lines	1
Music and Time	7
Enacting Musical Time	10
1. Meaning	16
Musical Objects	22
Objective Time	28
Lived Time	33
Significance	42
Affordances	45
2. Affordances	55
Breathing	57
Becoming Music (Behave So Strangely)	64
Musical Affordances	67
<i>Situation Semantics</i>	73
<i>Cultural Information</i>	77
Situation Semantics and Musical Affordances	85
Temporal Affordances	89
Musical Affordances of Breath	96
3. Body	104
Embodied Cognition	109
Temporal Bodies	112
Kinesthetic Knowledge	127
Kinesthetic Knowledge in Music Analysis	144
4. Flesh	148
The Body’s “I Can”	156
From “I Can” to Time	161
The Flesh of Time	169
Temporal Objects and the Flesh of Music	179

## viii CONTENTS

5. Affectivity	187
Auto-Affection	188
Enacting Lived Time	193
Louis Andriessen's <i>De Tijd</i>	205
Eternity in Augustine's Confessions	214
Temporal and Affective Dynamics of Movement	218
Enacting Chronal Anxiety	223
6. Verticality	229
Vertical Time	238
Eternal Return	247
Affect	256
Hosokawa's Vertical Time	262
Malleable Musical Form	269
<i>Works Cited</i>	277
<i>Index</i>	299

# Introduction

## Lines

### Imagine Time

Perhaps it is a line that stretches horizontally in front of you, with the past all gathered up to your left, the future to your right, and the place where you stand marking the present. Perhaps the line stretches front to back, with the past behind you and the future in front. Or perhaps the other way around, as it is for the Aymara people from the Andes (Nuñez and Sweetser 2006). Maybe the line is actually a river, and from the riverbank you can view time and the events happening within it, with the future upstream and the past downstream—or perhaps you yourself are being carried along by its current.

Imagining time itself—rather than events that occur in time—is not easy. To borrow a musical term, time’s nature fulfills a *double emploi*, as both an abstract concept and a sensed presence of our lives. This duality seems irreconcilable, as attested by centuries of debates involving philosophers, scientists, and artists, among others. We come to terms with it by drawing on our bodily experience to create useful metaphors, but these metaphors are often inconsistent or incoherent (Cox 2017). Consider time as a river: if you are caught up in its flow—that is, if you are *in* time—then the past is upstream. But if you survey the river from its bank, the past is downstream. Now, examine the metaphor itself. If time is a river, what is it contained in? What constitutes the riverbed? And, if you are caught up in its flow, what serves as your point of reference such that you know that it does, indeed, flow? Furthermore, if you stand as an observer on the riverbank, where are you? Are you outside of time? Is that even possible?

Still, even when faced with inconsistency and incoherence, we try to imagine time in its multiplicity of forms, expressing its function—more so, perhaps, than its nature—as an immaterial force that helps us to order and organize the incessant change we encounter in the world. Time gives change both a dimensionality (the past, the present, and the future) and a

## 2 ENACTING MUSICAL TIME

direction (the present—containing elements from the past—opens up onto the future). The line is a ubiquitous companion in our imaginings because, as David Rosenberg (2010) shows in his beautifully illustrated history of the timeline, its flexibility offers a broad assortment of configurations, including arrows, loops, spirals, sinusoids, and other shapes able to satisfy the needs of those who, for whatever reason, find themselves trying to imagine time. Although a relatively recent construct in Western history, the timeline holds much sway in our contemporary thinking, along with other temporal representations, such as clocks, calendars, tables, and circles. Taken together, they form a repository of Western temporal knowledge and a resource for our current and future models.

Delving into the history of this knowledge would already take us too far afield, even if we limited ourselves to Western thought, and even if we further excluded painters, writers, composers, and all other sorts of artists and artisans—to say nothing of physicists, economists, engineers, theologians, and so on—whose work explicitly considers time and our experience of it.<sup>1</sup> What is clear is that time is one of the foremost concerns for human beings, even if thinking about it leads to disagreements about the most basic issues: Does time flow, or is that merely an artifact of our minds? If it does flow, does it do so in only one direction, or in several at once? Is time real, or an illusion? Is it autonomous and objective, or contingent and subjective? Do we move through time, or does time move while we remain stationary? Can we travel through time?

For all the disagreement, understanding the nature of time is especially urgent for anyone interested in the analysis and interpretation of music, which is often—and often without resistance—said to be an eminently temporal artform. And the urgency is only amplified when we consider the most recent Western classical art music. Throughout the twentieth century and into the twenty-first, time has become one of the most dominant concerns for modernist and postmodernist composers, prompted by such a diverse range of influences as new digital technologies, developments in the physical and natural sciences, cultural theories that focus on the human subject as an agent constituting his or her own existence, and non-Western ideas and

<sup>1</sup> The exercise, in any case, is redundant, because there already exists a substantial body of literature that addresses this history in detail. Some of it offers a sweeping view of the most influential thinkers on the subject of time, from Plato and Aristotle, through Augustine, Newton, and Einstein, and on to Husserl and Hawking (Bardon 2013; Holford-Strevens 2005). Others focus on a specific figure (Coope 2005; Canales 2015), historical period (Thomas 2018; McGinnis 2013), or school of thought (Hoy 2009; Muldoon 2006).

concepts that have filtered into European and North American intellectual landscapes (Crispin 2009; Campbell 2013; Lochhead 2002). Some composers have written extensively about their approaches to time, leaving us with explicit ideas that often serve as springboards for analyses of their music. These composers include, among others, Igor Stravinsky (1947) and Karlheinz Stockhausen (1958, 1959), both of whom distinguished between the objective time of music and the subjective experience of the listener; Elliott Carter (1977), who conceived of time as a screen onto which our lives are projected; Pierre Boulez (1971), who drew on the music of Bali and India to conceptualize smooth and striated time; and Gérard Grisey (1987), for whom musical time was constituted by three layers—the bones, flesh, and the skin of time.<sup>2</sup>

As composers continue to use the sonic medium to question established orthodoxies and to create new paths through time, it seems that lines no longer provide enough multiformity to account for the rich experiential domain of the listener. Perhaps it is fortunate, then, that time as such has no perceivable appearance apart from the events that “take time,” because it grants our imagination the freedom to consider other forms that might aid us in processing the unfolding of events around us.

Imagine time differently, then—as a sphere, or a cube, or even a hexacosichoron. Imagine it running diagonally, or folding back upon itself, or sideways, or from the inside out. Imagine time crackling, wheezing, rustling, swooshing, buzzing. Imagine time as silent. Now imagine it smelling of freshly cut grass, or a musty hotel lobby. Then again, what if time glistened and shimmered? What if it breathed, slowly, in-out-in-out-in-out? What if it came near you, so close that you could feel its warmth, embrace it, hold it in your hands? What if it did all of that at once?

These might seem like whimsical metaphors, evocative poetic images that do little to augment our understanding of time itself. But in what follows I argue that these are all expressions of the same temporalizing act of the body engaged with its environment. Rather than replacing old metaphors with new ones, each chapter in this book questions notions of time enshrined in our theoretical concepts, and, by delving into the pre-discursive space in which the listening experience touches the sonic world, offers in their place new ways of thinking of time’s significance in our encounters with music. What interests me in particular is how and why time shows up as an aspect of

<sup>2</sup> For extensive commentary on the genesis of Carter’s thought, see Bernard (1995). Campbell (2013) discusses these and other composers’ approaches to time from a Deleuzian perspective.

## 4 ENACTING MUSICAL TIME

our listening experience, and how music draws on this experience to create opportunities for the emergence of new meanings.

The possibility of *time* smelling, or shimmering, or drawing nearer to us seems to run counter to the prevailing view, which is that odor, luminosity, and movement are some of the myriad properties of physical objects. While these physical objects undergo a change in time, time itself remains a separate (odorless, invisible, immobile) dimension. As Lewis Rowell pointed out in his 1996 review of music articles that had been published under the auspices of the International Society for the Study of Time (by now in need of updating, but by no means outdated), music-theoretical writings also adhere to the prevailing view. According to Rowell (1996b), time is usually regarded as “a quantitative dimension articulated by audible events,” with focus primarily directed toward such aspects as rhythm and meter (69). Like the line metaphor above, this approach draws on spatial analogues of time as the basis for measuring how musical events unfold. The main objective is to understand the relationships between sounds as if the piece of music were a temporally extended object that, although not available for perception beyond the sliver of the present, nevertheless “exists” spread out in its entirety along the timeline. It makes no difference whether the line runs horizontally or vertically, left-to-right or back-to-front, as long as it represents a time fundamentally characterized by quantity. This quantity can be expressed as the time-interval between successive events (inter-onset interval, or IOI), or as proportional relationships between durations, or as locations within a container (e.g., a measure) that keeps repeating at a consistent rate.<sup>3</sup>

By contrast, in this book I focus on a concept of musical time similar to what Rowell describes as “ideas and experiences, with distinct properties that can be modeled with sound” (Rowell 1996b, 69). My approach is based largely on twentieth-century continental philosophy, especially the work of the French phenomenologist Maurice Merleau-Ponty, who suggested that time, while *real*, exists neither objectively nor autonomously. Taking up this perspective, I consider time as the form of the listener’s interaction with music. Building on evidence from such diverse fields as music theory, phenomenology, cognitive science, and social anthropology, I develop a philosophical and critical argument that musical time is constituted by the

<sup>3</sup> There are numerous examples of these approaches in music-theoretical literature. Some of the most influential ones include London (2012), Cohn (1992), and Schachter (1999; see especially “Rhythm and Linear Analysis” and “Aspects of Meter”). Most recently, Yust (2018) emphasizes the spatial representation of time by explicitly connecting musical temporality with a landscape.

moving bodies of participants engaged in musical activities. I put forward and illustrate a claim that musical time describes the form of a specific kind of interaction between musical sounds and a situated, embodied listener. My main thesis is that this musical time emerges when the listener enacts his or her implicit *kinesthetic knowledge* about “how music goes.” Such knowledge is expressed in the entire spectrum of behavior, from deliberate inactivity, through the simple action of tapping one’s foot in synchrony with the beat, to dancing in a way that engages the whole body. I explore this idea in the context of recent Western classical art music, where composers create temporal experiences that might feel unfamiliar or idiosyncratic, experiences that blur the line between spectatorship and participation, and even experiences that challenge conventional notions of musical form.

To be sure, the way in which I regard time is novel in the field of music theory, and its emergence from skillful behavior in response to the auditory signal requires some explaining. By way of a non-musical example, consider your first encounter with a bottle of perfume that is new to you. As you press on the plunger, aerosolized droplets rush out and form a cloud that hangs in the air in front of you. In order to catch a whiff, you move your head, maybe even your whole body, this way and that. You create a fan-like motion with your hands in order to direct the fragrant air toward your nose. Move too much to the side, and the smell disappears; linger too close to the center of the cloud, and it becomes overwhelming, suffocating. There is a reciprocity in this action between bodily movements and the olfactory sensation, each one guiding and responding to the other. The structure of the event emerges from the interaction.

Skeptics will argue that it is possible to construe this interaction as something unfolding *in* time, with reference to an external, independent time-keeper. We might talk, for example, about the velocity with which droplets disperse through the air, or the speed with which electrical impulses travel from the olfactory bulb to the amygdala in the brain. These are all valid ways of describing the situation, but they separate the mechanics of the interaction from its significance, which is to discover the odorous properties of the perfume. Important to this discovery is the way the reciprocal relationship between the aerosolized droplets and the human subject gives both spatial and temporal structure to this encounter. This structure is not given prior to the event’s unfolding, but instead emerges during the bodily engagement with entities in the environment. Thus, in the above scenario, the ordering of the event—the precise manner in which it unfolds—is driven by the



## 6 ENACTING MUSICAL TIME

unique dynamics between the chemical compounds that make up the perfume droplets and the situated, embodied subject who experiences them as a particular kind of smell, with a particular concentration and a particular quality. These unique dynamics imbue the entire interaction with a special significance, and it is this significance that constitutes time. As Merleau-Ponty (1968) argued, time is precisely the form of the unique dynamics between entities in the world; it is a relation—or what he called “a network of intentionalities”—distributed among all humans as well as the things and creatures around them.

Central to the distributed network of intentionalities is a body actively engaged with the world. This world includes various auditory signals, some of which form patterns that enculturated listeners recognize as music. Work on the relationship between listeners’ bodily movements and common-practice musical techniques, such as the metrical organization of tonal harmonic patterns, is already well into its heyday, both in terms of gathering empirical evidence, and the development of theoretical models.<sup>4</sup> Research in this regard is thriving, spurred by the ever-advancing technological innovations in the field of human motion-capture and analysis. By contrast, the picture of the body’s function in contemporary music is still coming into focus. Scholars like Arnie Cox (2017), Lawrence Zbikowski (2016), Andrew Mead (1999), and Judy Lochhead (2015) have been making considerable inroads, but I would not be surprised if, apart from the context of “modern dance,” many readers found it inconceivable that one’s body could be explicitly involved while listening to new music. I say this having run numerous studies in which I asked participants to do just that: to move in response to pieces that hardly used any recognizable “musical” materials, to say nothing of such familiar constructs as meter or even a beat. For some, the task was incomprehensible, even offensive. But for the vast majority it turned out to be an exhilarating, eye- (and ear!)-opening encounter, which ultimately convinced them that new music need not be “difficult,” that it need not be an intensely cerebral experience marked by immobile concentration and requiring an almost mathematical understanding of how the sounds relate to one another. In other words, that new music could *move* them.

<sup>4</sup> Several collections of essays have appeared in the last decade that address theoretical and empirical aspects of musical embodiment, including Godøy and Leman (2010), Gritten and King (2006, 2011), and Leman et al. (2017).

This book is partly an elaboration of these encounters and their application to questions of musical time and meaning. One of my goals is to open up productive avenues for interpreting contemporary works that bring to listeners' attention various problems associated with the experience of time. To that end, the central focus is on the listeners' bodies, their capabilities, and the emergence of a particular kind of meaning—which I call *significance*—in contemporary music.<sup>5</sup> Significance is a pragmatic meaning that is immanent in the interaction between music and listener. Basing my discussion on the above-mentioned embodied phenomenology of Merleau-Ponty, and on the ecological psychology of J. J. Gibson, I show that the body enacts time by actualizing the potential inherent in a given situation. Motivating this body is the basic interest in, and engagement with, the sonic environment. As such, this is not a book that merely connects time with music, but one that reexamines the tools of music analysis through the lens of what phenomenologists call “lived time,” or time as it shows up in human lives (Hoy 2009). My intent is to challenge conventional ways of thinking about musical time and its related concepts of rhythm, meter, tempo, and form, with the hope that this challenge expands of our conception of musical time in a way that harmonizes with the rich depth of our experiences.

## Music and Time

Following Susanne Langer, and especially later extensions of her ideas in Zbikowski's *Foundations of Musical Grammar* (2017), I endorse the notion that music's significance lies in the way it uses successions of sounds to reflect the temporal bodily patterns that a given culture finds important enough to store for later retrieval. One consequence of this function of music is that our bodies produce a kind of knowledge that lies close to the way in which time is constituted. In turn, those same bodies influence how we understand musical meaning. This way of thinking about musical time engages with issues of musical functions in various human cultures. As such, it differs from how time is usually considered in music theory, where it typically shows up

<sup>5</sup> There is a lot more focus on the performers' bodies in relation to musical meaning. The list is long, but some of the most influential contributions include Sudnow (1978), Cusick (1994), Mead (1999), Fisher and Lochhead (2002), and Montague (2012). Most recently De Souza (2017) devotes a chapter to listeners, even though the bulk of his book addresses performers. Moreover, Cox (2017) attempts to bridge the split between the body's role in performance and in listening.

## 8 ENACTING MUSICAL TIME

in concrete terms as part of analyses of rhythm and meter.<sup>6</sup> Although such studies ostensibly deal with time, few challenge its ontological status, treating it as a foregone conclusion.<sup>7</sup> One could hardly assail, for example, the confidence in Robert Morgan's assertion that "there is no question, *of course*, that music is a temporal art" (1980, 527; emphasis added). But what if the author's claim were not as indubitable as it seems? What if music's relationship to time *were* a question? In what way is music a temporal art?

In the writings of the theorists who have grappled with issues of ontology, there is a proliferation of different kinds of time, each one signaling a concern with different aspects of musical unfolding. To list a few examples, Jonathan Kramer (1988) draws a distinction between "linear" and "non-linear" time, both of which describe different logical relationships between sonic events; Barbara Barry (1990) theorizes "structured" and "transcendent" time, the former referring to motion and the latter to space; David Epstein (1995) posits "chronometric" and "integral" time, which he identifies with meter and rhythm, respectively; Byron Almén and Robert Hatten distinguish between "suspended," "cyclical," "symmetrical or mirrored," and other kinds of time, all having to do with aspects of narrative in twentieth-century music.<sup>8</sup> In contrast to these, Christopher Hasty's *Meter as Rhythm* (1997) erases all dichotomies and presents an argument that musical meter is a form of musical rhythm.<sup>9</sup> Asking us to "take time seriously," his Whitehead-inspired

<sup>6</sup> Rhythm concerns information contained in the acoustical signal itself: it is the distribution of auditory pressure waves. Meter, by contrast, is the way in which rhythm is organized into regularly recurring, hierarchically organized groups (London 2001). There is some disagreement regarding whether meter is an objective musical property (Poudier 2008), or whether it is the listeners' cognitive ability (Keller and Burnham 2005), or whether it depends equally on both (London 2012), but general consensus is that there is a categorical difference between things happening at the musical "surface" and their "deeper" organization (Lerdahl and Jackendoff 1983).

<sup>7</sup> Some recent examples of studies of rhythm and meter in music theory include Yeston (1974), Lester (1986), Mirka (2009), Malin (2010), Murphy (2009), and Smith (2006). Both have also been studied extensively from a cognitive perspective: see in particular Longuet-Higgins and Lee (1982), Riess Jones (1987), Clarke and Krumhansl (1990), Gjerdingen (1989), and Grahn and Brett (2007). For a thorough review of this literature, see DeGraf (2018).

<sup>8</sup> Two more monographs are worth mentioning in this context: Arnie Cox's *Music and Embodied Cognition* (2017) (which, although not concerned with time per se, does address the bodily source of our metaphors of time, as well as how our bodies participate in the construction of musical meaning), and Justin London's *Hearing in Time* (2012) (which does not explicitly tackle the ontology of time itself, but does incorporate spatial concepts of time into a theory of meter).

<sup>9</sup> Krebs (1999) also eschews dichotomies in his theory of meter. To him, meter is "the union of all layers of motion (i.e., series of regularly recurring pulses)" active within a piece of music. He identifies three such layers: the pulse layer, which is "the most quickly moving *pervasive* series of pulses, generally arising from more or less constant series of attacks on the musical surface"; even more quickly moving are "micropulses," which are "coloristic embellishments" of meter; and the "interpretive" layer, which is the slowest moving series of regular pulses that is perceptible, and which "allow the listener to 'interpret' the raw data of the pulse layer by organizing its pulses into larger units" (23).

philosophical approach gives us good reason to think that the distinction between meter and rhythm is merely a matter of nomenclature. Instead of thinking of them as opposing kinds of time, Hasty suggests that meter, like rhythm, results from a listener's active engagement in making sense of the object of experience—in this case, music. An interesting fallout of this shift in perspective is that even music without an explicit metrical structure can be heard as a succession of upbeats and downbeats, which he illustrates with analyses of such twentieth-century works as Anton Webern's *Quartet Op. 22* (1930) and Pierre Boulez's *Le Marteau sans maître* (1954).

Hasty's assertion that process is a fundamental feature of musical time, his ultimate focus on music outside of the common-practice tradition, and especially his entreaty to "take time seriously," all resonate across the pages of this volume. However, there is an author—likely little known to music theorists—who has influenced my own thinking to an even greater extent. David Burrows's *Time and the Warm Body* (2007) presents an entirely original philosophy of time based on a binary opposition between two impulses that permeate the universe: going and stabilizing. According to Burrows, the oscillation between these two states is a necessary condition of the survival of any dynamical system, whether at subatomic or supra-galactic levels. Music in this schema is "our most dedicated and fine-grained isolation and cultivation of time and its issues in an art form" (65). With its focus on the generative now, music uses the flow of sounding events to serve as a representation of the most essential features of time, which are the driving impulses of movement and stability. As a microcosm of life-sustaining processes, music for Burrows is a model of temporality.

Hasty and Burrows form the backdrop for the discussion that ensues in the following chapters. The former makes a case that our theoretical reflections on the temporal dimension of music should more closely harmonize with our listening experience. The latter argues that the "now" is central to the constitution of our time, and that music—which, if it could be said to exist, only does so in the "now"—is really efficient at revealing the most significant attributes of time. My own contribution integrates these two perspectives by considering the position of an embodied, situated, flesh-and-blood listener who enacts the temporal patterns of music. What are the temporalities evident in our interactions with musical sounds? What bodily skills and capacities make these interactions possible? And, most importantly, what are the implications of these interactions for musical understanding?

## Enacting Musical Time

By engaging with these questions, my aim is to explore a level of musical understanding that I consider to be fundamental to the listening experience. In the process, I expose some of the assumptions that underlie music-theoretical endeavors and reassess certain concepts that have long become ossified in our analytical methods. I do this in an effort to use the physicality of a situated listener as a lens through which the connection between music and time can be imagined anew. To that end, the book's overarching argument begins with the problem of meaning. I propose that an active, bodily engagement with musical sounds offers a window into a pre-linguistic, non-representational significance, which discloses music as a temporal object by retaining the dynamical nature of time. Significance is captured by Gibson's theory of affordances, but since music—in addition to being part of the sonic environment—has aesthetic value, we need to amend the theory to include temporal objects that offer the listener what I call “temporal affordances.” These affordances specify *when* an action needs to take place, and they emerge in listeners' embodied interactions with musical sounds. Such musical interactions, which constitute each listener's enacted knowledge of musical processes, are socially and culturally conditioned from birth, beginning with the earliest communion between an infant and a caregiver, and are driven by another set of constraints in the form of “social affordances” available to each well-adapted listener. By observing musical interactions, we gain insight into the emergence of a level of musical understanding that is inextricably bound up with the passage of time, and in which such passage is manifested. Based on this understanding, my approach implicates both the listening body and the musical temporal object as the co-creators of time.

The time that is thus created is not the objective, spatial time that was so famously and publicly denounced by Henri Bergson.<sup>10</sup> Rather, it is lived time—time characterized by a quality that both shapes and is shaped by the dynamics of our interactions with the environment. Merleau-Ponty (2012) argued that it is a time of a single experience of a continually changing present, in which what was once implicit becomes explicit, while what was

<sup>10</sup> Bergson makes no explicit appearance in my discussion, but his ideas resonate throughout the writings of most philosophers of time in the twentieth century. On the famous debate between Bergson and Einstein concerning the nature of time, see Canales (2015). Bergson's most significant critiques of spatial, “scientific” time can be found in his *Matière et mémoire* (1896) and *Essai sur les données immédiates de la conscience* (1889).

explicit becomes implicit. I add to this that lived time is *enacted*. Enaction concerns the view that our minds are not bound by the skull, with the brain forming representations of the external world based on information that is passed on by the perceptual system, but rather that it originates in and is constituted by perceptually guided action (Schiavio et al. 2017). In other words, it is an activity described by the interactions between an organism and its environment. Meaning is something that the organism brings forth within a system that encompasses its neurology, physiology, and the environment in which it is embedded. In particular, enactivism—the intellectual tradition that draws on enaction—focuses on subjective experience in order to consider the role of emotion, affect, and motivation in constituting human cognition (Thompson 2008). According to this view, perception is not a passive effect of an external stimulus, but rather a mutual interaction emerging from skillful bodily activity: as the world solicits certain actions by virtue of the organism’s openness to its own milieu, the organism reconfigures the environment by virtue of those solicited actions. The key here is the fact that the organism is *motivated* to act on the world, to care about its own survival such that the world shows up as a “correlate of [its] needs and concerns” (Colombetti 2013, 2).

Time in this context is the structure, or meaning, or the significance of the interaction. It emerges from the affordance-driven dynamical system that forms between skillfully acting, affectively motivated agents and an environment to which they are well adapted. We can summarize the main points of time-as-enaction using the following principles:

- Time is an emergent property of one’s active, dynamic, affectively charged engagement with the environment; it is the form that emerges from this engagement.
- Time is a kind of performance in the sense of having a dual character of being culturally sanctioned but also open to individual variation based on the agent’s affective disposition.
- Time is actively generated by a living, animate being. An autonomous organism creates its own conditions of existence in a process of “auto-affection.”
- Enacted time emerges from the exercise of skillful know-how in situated, bodily action. The environment and the skilled agent together create a dynamical system.

## 12 ENACTING MUSICAL TIME

- Enacted time exists as the relation between the cognitive agent and the environment. It is not the sole property of either one, and it alters as the relationship changes.
- Enacted time is not perceived; rather, it is experienced. The body of the agent is central to its emergence.

I elaborate these principles by weaving them into the narrative arc of the book, which progresses from the surface of time to its depth, with each chapter serving as a step along this descent. The upshot is that moments in time are characterized by two seemingly mutually exclusive features. On the one hand, they each have a depth that interconnects them through our sense of the past and of the future. Importantly, this interconnection does not directly implicate memory and anticipation, because those already presuppose a sense of past and future: memory and anticipation are present experiences, whereas a sense of the past and future is a sense of something precisely *not present*. On the other hand, each moment has a distinct feel, or grain, which makes it unique and wholly different from all other moments. There is an affective dichotomy insofar as any given present is at once familiar (because it is something of our creation, where it integrates with other moments of our being) and also strange and foreign (because it happens only that one time, and it can never be recovered). Time is therefore both coherent and incoherent, and we use the concept of time as a tool to both create familiarity and to provide support for the unfamiliar.

In what follows I engage in analyses of examples from contemporary Western art music in which composers, by foregrounding time as a point of concern, offer opportunities to experience the tension between what is familiar and what is not. This effect can be achieved through a number of techniques, including stretching the interval between sonic events beyond the limits of listeners' working memories, eschewing regularities of pulse and metrical organization, creating musical forms that challenge notions of a linear and uniformly moving time, or using sounds that more readily resemble noise. In all of these situations, as well as others in which something out of the ordinary is happening in the music, time acquires the potential to surge out of its neutral state as the background of our lives and become an object of listeners' attention. A fluctuation, a slippage, a momentary wobble or vibration in temporality knocks it out of balance and perturbs it just enough for the listener to take notice. I draw on the resources provided by the listening body to identify and analyze these perturbations, in turn illustrating



how composers aesthetically extend the temporality of everyday life and impugn our common-sense notions of time.

Chapter 1, “Meaning,” develops two claims that are central to the book’s overall argument. The first is that certain temporal musical objects exist only as ephemera—always remaining outside of symbolic representation. These objects are constituted by lived time. The second claim is that the ephemeral meaning of music consists of its significance, which I define as a practical meaning that arises in the moment of one’s perception of, and action upon, one’s immediate environment. Significance is a process that is enacted in the dyadic relationships between environmental affordances—opportunities for and constraints of action—and a situated agent.

In Chapter 2, “Affordances,” I elaborate on the idea that significance is manifested in music’s affordances relative to listeners’ bodily capabilities. I argue that music is a significant phenomenon because it furnishes listeners with two kinds of affordances: “social affordances,” and what I call “temporal affordances.” These latter affordances specify *when* an action can be performed, and thus differ from their spatial counterparts, which specify the *kinds* of actions one can perform. Social and temporal affordances can interact, but current theories of musical affordances are incomplete insofar as they treat music as an environmental sound while deferring its aesthetic value to “higher” cognitive processes. In contrast to these theories, I argue that the process of aestheticization begins precisely when music temporalizes the world for its listeners—that is, when time becomes a point of concern.

Affordance systems are constituted by two elements: the physical world, and the bodies of perceiving organisms. Whereas in Chapter 2 I focused on the former, in Chapter 3 (“Body”) I take a closer look at listeners’ bodily capabilities. I first draw on my own and others’ observational studies to show how listeners’ capacities for movement to music unfold in two distinct ways: (1) by synchronizing with a pulse, and (2) by coordinating their movements with events separated by longer, or uneven, spans of time. I then argue that these two categories of movement constitute a kinesthetic knowledge of music’s temporal processes—of “how music goes.” I develop a comprehensive account of this knowledge as a contextual enactment, through bodily engagement with the world, of the dynamics, affectivity, and intercorporeality of our involvement with the world—as a dynamic feel of living as an animate and environmentally embedded being engaged in some task.

Chapter 4, “Flesh,” connects the notion of affordances with phenomenological investigation to explore how the human body, with its perceptual and



## 14 ENACTING MUSICAL TIME

animate capabilities, co-creates time together with the sonic environment. I employ Merleau-Ponty's concept of flesh as an inextricable link between a subjective body and the objective world, and consider how time may be viewed as one of the forms that this link can take. Highlighting the similarities between affordances and flesh—arguing that the former describe the interaction between bodily and environmental capacities, while the latter discloses the structure of the system as a whole—I return to my earlier proposal that music, as a social and temporal affordance, allows us to consider the listener-music interaction as the very source of time. Time here is enacted when, engaged in this interaction, the body slips back-and-forth between its appearance as a physical object submerged in the world and its function as the seat of subjectivity.

Chapters 5 and 6 are intended to more fully demonstrate the analytic capacity of the enactive approach developed earlier in the book. In Chapter 5, “Affectivity,” I draw once again on Merleau-Ponty, as well as recent additions to his work by the neuroscientist Francisco Varela (Varela and Depraz 2005; Varela et al. 1992) and the cultural theorist Mark Hansen (2004a, 2004b), in order to explore how listeners' fundamental capacity to both affect and be affected by musical sounds generates lived musical time. I illustrate the consequences of this process with an analysis of time and eternity in Louis Andriessen's monumental work *De Tijd* (1979–81). In contrast to this focus on “micro-listening,” or an approach that attends to minute sonic fluctuations, in Chapter 6 I look at the enactment of time over the course of an entire piece. This final chapter, titled “Verticality,” presents an analysis of Toshio Hosokawa's *Vertical Time Study I* (1993) as a vehicle for examining how the body participates in creating structure in Western contemporary music.

\* \* \*

My goal in this volume is to open up the music-theoretical dialogue to new ways of thinking about the role of the body in constructing musical meanings, and to explore the consequences of this thinking as it relates to our understanding of the relationship between music and time. That said, this is not explicitly a study of rhythm and meter. In fact, most of the musical examples I analyze forestall a sense of metrical organization, and one in particular—Louis Andriessen's *De Tijd* (see Chapter 5)—can hardly be said to employ rhythm (in the conventional sense) at all. Neither am I interested in cataloguing the specific techniques that contemporary composers use to

undermine or otherwise highlight various temporal forms. Studies that engage in such analyses typically draw on objective notions of time in order to address the emergence of musical meaning as a response to normative temporal experiences. The method usually assumes a stable ontology of time that is “encoded”—as Robert Hatten (2006) describes it—in specific kinds of musical events, and proceeds by showing how a composer is able to disclose or engender alternative temporal experiences by deviating from those encodings. Although I too am concerned with how contemporary music offers opportunities for new temporal experiences, I cautiously avoid referring to objective time as a standard for comparison. Furthermore, this book is not meant to present an overview of the myriad ways in which contemporary composers themselves think about time and how their concepts are implemented in the sounding material. If anything, I tend to push against the composers’ own words in order to expose and amplify the gaps and cracks between the different philosophical, scientific, and aesthetic traditions that comprise their milieu.

Finally, the scope of the discussion is limited to recent Western classical art music, and I make no explicit claims about the more general applicability of the theoretical or analytical perspective I develop. A more comprehensive project would not only require a synthesis of the vast literature on time and embodiment—perhaps in the form of an original ontology of musical time—and an expansion of repertoire beyond the classical idiom, it would also have to incorporate concepts and musical practices from non-Western cultures. From a pragmatic perspective, this would inflate the present book beyond all limits of manageability. For the same reason, I do not present empirical data as evidence of human embodied–cognitive capacities, but instead use these data as the ground from which I embark upon an analysis of musical practices themselves. Put differently: whereas scientific work on musical embodiment focuses on answering questions about how people hear and comprehend music, here I reflect listening capabilities back onto the musical object in order to ask: “What does *how* you hear tell me about *what* you hear?”