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The Varieties of Tone Presence: On the Meanings of Musical Tone in Twentieth-Century Music

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Abstract

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This dissertation is about tone presence, or how musical tone shows up for experience in twentieth-century music. In exploring the subject of tone presence, I rethink notions of "pitch structure" in post-tonal theory and offer an alternative that focuses on the question of what it is *to be* a musical interval *for experience*, drawing on a wide range of research from social theory, semiotics, theories of emotion, African American studies, literary theory, usage-based linguistics, post-colonial theory, and phenomenology. I begin by offering a critique of three basic assumptions that constrain understandings of what we mean by pitch structure in post-tonal theory: that pitch structure concerns "intrinsic" properties of collections, that pitch is an autonomous parameter, and that pitch structure is best analyzed at the "neutral level." Following this critique, I offer an alternative account of musical intervals that suggests that intervals cannot be reduced to a discrete quantity measured in semitones. I argue instead, that what it is *to be* an interval are all those conditions (in terms of culture, expression, musical form, motivic behavior, etc.) under which an interval becomes intelligible as such for experience. Such conditions include our concerned involvement with holistic situations and, following ideas rooted in Bakhtinian dialogism, our responsive understanding of "alien" understandings of the "same" interval. The understanding of what I describe as the modes of being of musical intervals is

illustrated in an extended analytical case study of what it is to be an “authentic” atonal tritone in tonal and modal environments. Building on this account of the modes of being of musical intervals, I reexamine semiotic approaches to musical meaning, exemplified by topic theory, that treat musical meaning as a *represented entity* (i.e., a sign) that *associates* the “music itself” with “extramusical” meaning. Specifically, I offer an account that treats musical meaning as a *social process* (rather than an entity) in which cultural forms of meaning act as the ground that helps make musical tones—the “figure” in this gestalt metaphor—intelligible as such. The last chapter features an extended analysis of tone presence in Messiaen’s “Demeurer dans l’Amour” from *Éclairs sur l’au-delà*.

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I also want to acknowledge Stephen Blum, whose seminars at the Graduate Center were tremendously formative for my development as a scholar. A big shout-out to members of an ongoing reading group with my good friends at the GC: Megan Lavengood, Simon Prosser, Chris McGuinness, Daniel Fox, Tom Johnson, and Noel Torres-Rivera. The conversations we had discussing everything from Saussure, Peirce, Barthes, and Kristeva to Merleau-Ponty, Berman, Baudelaire, and Habermas (all over copious amounts of beverages!) were absolutely essential to my intellectual development and an important reminder of the joys of the learning experience outside the strictures of the seminar room.

On a different note, another shout-out has to go to the music of the Wu Tang Clan, African American vernacular English, and the eighth and eleventh of Marx's *Theses on Feuerbach*. Besides friends and family, these artists, dialect, and theses have been a tremendous inspiration to much of my scholarly work even if their presence is not always explicit throughout this dissertation.

I also have to give great thanks to my family who have always supported me in my various endeavors and provided words of encouragement when needed: My step-mom Julie Harcus and step-brothers Jason, Alex, and Josh; my brothers Nathan, Ian, Carl, and Marcus, and my mom, Rita. Finally, I dedicate this dissertation to my father, Andrew, who passed away while

I was finishing up my coursework. Even though, he never went to college, our conversations about politics, history, basketball, and everything else have been far more impactful on my development as a person and scholar than any course or scholarly conference that I have attended. As he would say, “Peace and Applegrease!”

Table of Contents

Chapter 6. Tone Presence and *éblouissement* in Messiaen's "Demeurer dans l'Amour" from *Éclairs sur l'au-delà*

List of Examples

List of Figures

Chapter One

Introduction

This dissertation is about *tone presence*, or, how musical tone—understood broadly to include all qualities of pitch relations such as contour, intervals, scale degrees, members of pitch-class sets, a space of objects in the sense of transformational theory and so forth—"shows up for experience" for listeners, composers, and performers, and the role tone presence has played (and continues to play) in our understanding of the compositional practice of twentieth-century western classical music.[1] In focusing on tone presence, I reexamine how music theorists have conceptualized pitch structure in post-tonal music and develop an alternative account that takes the *phenomenology of perceptual experience* as its starting point.

In focusing on tone presence,[2] my approach to the subject of pitch organization is very close to what Joseph Dubiel describes as the "only sense in which [he] is ever interested in attributing logic to pieces"; that is, "such-and-such a configuration of sounds is a reasonable one to have created, given the intention to elicit such-and-such an effect in such-and-such a listener. And this requires having something to say about the *effect* and about the *listener*."[3] Influenced by this view of "musical logic," I attempt to reorient the discourse of pitch structure toward an understanding of musical tones as *constituted* by the effects that "such-and-such" an organization of pitch is *anticipated to elicit* in a listener. In other words, rather than build up a theory of pitch structure that conceives of the "tones themselves" as independent of the subjective "effects"

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[1] The title of this dissertation and the concept of presence is a play on philosopher Alva Noë's book *Varieties of Presence*. See Noë (2012, 2).
[2] Phenomenology is broadly construed here as the "structure of experience." See Gallagher and Zahavi (2008, 6).
[3] Dubiel (1997, 313), emphasis my own.

generated in a listener, I argue that all there is for a sound *to be* a musical tone are these subjective effects. The dissertation can thus be seen as an attempt to elaborate this claim in detail by examining what it is for it *to be* a tone for experience, and interpreting these effects in works from the twentieth-century that cross-cut the traditional boundaries of tonal and atonal. Here, I treat the "how" (phenomenological approach) and "what" (hermeneutic, or, interpretive approach) questions as mutually interdependent.[4]

With this approach in mind, there are two somewhat negative reasons why I think an account of pitch structure in terms of tone presence in twentieth-century music is valuable to music theory and to the study of twentieth-century music more generally. The first is simply the great dearth of any kind of discussion of the experiential content of musical tones in post-tonal theory. In fact, as I argue in Chapter 2, the almost complete absence of any reflection on what we mean by musical experience, and the experience of pitch structure in particular, applies to all of the primary subfields of post-tonal theory—pc-set theory, transformational theory, atonal voice-leading, approaches based on cyclic sets, and chord quality and similarity relations—and is attributable to the dominance of formal methodologies in these subfields, which, by definition, are without reference to any particular content (perceptual, or otherwise).[5] In other words, these formal theories consist of what the cognitive psychologist Lawrence Barsalou describes as "amodal" symbols that only come to refer to a *particular* perceptual modality or physical object, when they are *interpreted as such*.[6] In this case it is the *interpretation* and NOT the formal

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[4] Phenomenology is broadly construed here as the "structure of experience." See Gallagher and Zahavi (2008, 6). Additionally, the dialectic between the "how" and "what" of musical tones is influenced by the analogous approach Robert Hatten has taken to the study of musical meaning (1994, especially 1–5) where much attention is given to "how" meaning is made possible in music, while simultaneously addressing "what" the meaning is in particular works by Beethoven.

[5] This limitation of formal approaches taken from logic and mathematics has been pointed out for linguistic categorization, perception, and concepts, respectively by Lakoff (1987), Barsalou (2008), and Murphy (2002).

[6] See, for example Barsalou (1999).

theory that does all of the work in providing an account of the perceptual experience. This is a subject that I explore in more depth in Chapter 2, where I think critically about what music theorists mean by "pitch structure," with special attention paid to North American post-tonal theory.

The second reason derives from a central theme of this dissertation: that what it is *to be* a category of tone only emerges *in use* rather than the use being a realization of an abstract (Platonic) type, innate competence (à la Noam Chomsky), or underlying structure (e.g., Saussure's notion of *langue*).[7] More specifically, pitch structure emerges from situations analogous to what linguist Ronald Langacker describes as usage events:

> The essential aspect of a usage event is how the expression employed is apprehended by the speaker and hearer–their full contextual understanding of its import and the full detail of its phonetic manifestation. Importantly, the relevant context subsumes far more than just the immediate physical circumstances. Speech interactions unfold at all levels of the interlocuters' awareness: physical, mental, social, cultural, emotive, and evaluative. Part of an expression's contextual import is thus an assessment by each interlocutor of what the other knows and is currently attending to, as well as their attitudes, intentions, and desires. Further included is their awareness of the ongoing discourse itself and how the current expression fits into it.[8]

Put in terms more familiar to music scholars, the categories of tone represented by the concept of "pitch structure" that composers deploy arise out of the composer's apprehension of a listener's "responsive understanding"—i.e., an emotive, cultural, and *evaluative* understanding—of how

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[7] See, for example Chomsky (1965) and Saussure (1959).
[8] Langacker (2008, 220).

that tone is perceived as functioning within a larger, ongoing musical *situation*.[9] Hence, in Chapter 3 I argue for an account of tone presence that is fundamentally dialogic in orientation.[10] I present an account of pitch organization in twentieth-century music, centered around tone presence, that is grounded in a usage-based understanding of how categories of tone emerges from a listener, composer, and performer's *responsive understanding* of the situations that tones help to characterize.

CHORD QUALITY, TONE PRESENCE, AND PERCEPTION

One of the great impetuses for writing this dissertation is the literature on chord quality, especially the seminal writings of Ian Quinn and Joseph N. Straus.[11] More recent literature has helped to sharpen the similarities and distinctions between the *harmonic* approach of Ian Quinn, based in part on common tones and relations of inclusion, with Straus's approach based on voice-leading relations among set classes (e.g., Hoffmann 2008 and Tymocyzko 2008)[12]; however, the central texts on chord quality in post-tonal music remain those of Quinn and Straus. What these approaches offer is a model of chord quality and similarity in the twelve-tone equal-tempered system that makes use of a very old metaphor of musical space where relative distance in physical space is analogous to relative similarity among chords, keys, and scales in musical space.[13] More specifically, Quinn constructs a musical space with a well-defined distance metric

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[9] As I discuss in more depth in Chapter 2, a musical situation encompasses general notions of phrase formation (Hasty 1984), musical topic (Agawu 2009, Monelle 2006), expressive genre (Hatten 1994) or trajectory on a smaller scale and, crucially, the responsive understanding involved in the perception of these situations. In other words, what have traditionally been described as the musical structure and evaluation of these structures are co-constitutive.
[10] Two seminal accounts of dialogism in the novel and language more generally are Bakhtin (1981) and (1986).
[11] Quinn (2001), (2006), and (2007); Straus (2003) and (2005b).
[12] More recently, Gates (2013) has advocated for a return to a (greatly modified) pitch-class genera approach of Forte (1988) and Parks (1989) and (1998).
[13] For a historically informed account of the metaphor of musical space as it applies to transformational theory, see Gollin (2000). For a more general historical account of the metaphor of musical space in western music theory that deploys aspects of conceptual metaphor theory, see Park (2015).

that precisely measures similarity among chords, pitch-class sets, set classes, and larger genera of setclasses using ideas from Lewin in his use of the Discrete Fourier Transform and Clough and Douthett on maximally even sets, while Straus measures distances among set-classes using semitone voice-leading.[14] Importantly, Ian Quinn shows that all prior approaches—whether aimed at a numerical index that measures *similarity* between pairs of chords such as that of Robert Morris or *taxonomic* approaches that lump similar set-classes together based, in part, on principles of inclusion such as Allen Forte's work on pitch-class set genera—converge to a very strong degree in their results and could thus be related in the "quality space" that he develops in his three-part essay.[15] Straus went on to show that there was a very high correlation between his voice-leading approach and Quinn's harmonic approach.[16]

While the formal theorizing in these approaches is truly remarkable, one of the great ironies in the literature on chord quality is the extreme scarcity of any actual discussion of *quality* and its experiential basis. The result of most of these theories is essentially a *formal* space of amodal symbols and a precise distance metric (i.e., *quantity*) that measures relative similarity between abstract collections of symbols defined relative to certain prototypes. For Quinn, the only discussion of quality in his essays amounts to saying that the intrageneric affinities among chords represent the "intuition" that certain chords are more or less diatonic, chromatic, whole-tone, and so forth (his Prototype Familiarity Principle).[17] Meanwhile, Straus's understanding of quality, though slightly more detailed than Quinn's discussion, comes down to his hypothesis on the "Law of Atonal Harmony," which suggests a preference for relatively "unchromatic" harmonies (or an intentional avoidance of such harmonies), which correlates in turn to relative

[14] See Lewin (2001) and Clough and Douthett (1991).
[15] See, for example Morris (1979) and Forte (1988).
[16] See Straus (2005b).
[17] Quinn (2006, 131).

degrees of harmonic tension or relaxation. This preference can be measured by the degree of semitonal offset away from the maximally compact set-classes (i.e., [01], [012], [0123], etc.).

While I certainly agree that degrees of "chromaticness" or harmonic tension (embodied in Straus's model of set-class space) and the degree to which a chord is similar to whole-tone, diatonic, chromatic and other familiar prototypical scales (embodied in Quinn's account of intrageneric affinities in his quality space) are *qualities* that we experience in atonal music, they represent but a miniscule proportion of the enormous range of qualities and effects found among the categories of tone used in twentieth-century western classical composition. Also, without an account of the musical situations and conditions under which the qualities described by Straus, Quinn, and many other theorists show up for musical experience *as such*, it is hard to assess the extent to which these formal models accurately represent the qualities in compositional practice. For instance, there might be musical situations where a chord representing (015) sounds *more* harmonically *tense* than (014) depending on the context; and even where two passages make use of set-class (02468t), there may be instances in which one passage sounds much more characteristic of the whole-tone scale than another. If this is the case, then there may be something *other* than the formal models themselves that determines the quality of a chord. Great emphasis is thus placed on the qualitative dimensions of tone presence, especially in terms of those culturally contingent modes of musical meaning that I argue are constitutive of an interval's sonic identity.

While this is not an empirical study of chord quality and musical tone, it is important to consider some of the work on the cognition of musical tone in atonal music, since this literature has devoted considerably more attention to the subject than post-tonal theory, even if it has engaged the subject in a problematic manner as I will argue shortly.

In brief, this literature tends to frame the problem of pitch experience in atonal music in terms of the question "*Can* you hear it?" More specifically (and using the language of cognitive psychology), can you (mostly Western undergraduate students) unconsciously assign a "mental representation"[18] to the stimulus information?[19] There is also an extensive literature that is devoted to issues of how listeners segment complex works of post-tonal music.[20] Still, there have also been studies on the empirical validity of early models of similarity relations for pairs of chords as well as the ability to identify the classical transformations (inversions, transpositions, retrograde, and retrograde-inversion) of twelve-tone rows.[21] Additionally, Elizabeth Marvin tested the role of experience in recognizing atonal melodies using contour relations, lending support to the claim that experience makes a difference in hearing pitch relations in atonal music.[22] Further studies use computational approaches, such as David Huron's study that applied Krumhansl's tonal hierarchy (a statistical profile of hierarchical relations among tones of the diatonic scale) to randomly generated rows in comparison to a selected prime row form from one of Schoenberg's works, showing that Schoenberg's twelve-tone row (*not* its actual deployment in the work) was more *non*tonal than the randomly generated rows according to the distribution of tones relative to the tonal hierarchy.[23] Still other more theoretically oriented studies approach

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[18] Noë (2012, 30) offers the following, pithy description of the role of mental representations in experience: "Each of us is blind and groping; we collect information about what is going on around us; we use the information to build up a *model* or *picture* or *description* of the situation around us. Conscious experience of the world is, really, the experience of what is in the model. Once the model is ready, we plug it in and, voila!, the experience (the illusion) of the world!"

[19] This "*can* you hear it question" as at the heart of Fred Lerdahl's well-known (and infamous) essay on cognitive constraints and their relation to contemporary composition. See Lerdahl (1992).

[20] See, for example, Clarke and Krumhansl 1990.

[21] See Bruner (1984) for a test of early models of similarity relations and Krumhansl (1990) for a review of empirical work testing the ability to perceive the basic structures and transformations of twelve-tone music.

[22] See Marvin (1997).

[23] See Huron (2006, 339-344). For an overview of the empirical research that led to her tonal hierarchy, see Krumhansl (1990).

the subject by investigating the disjuncture between compositional systems and the purported universal constraints involved in our cognitive grammar of music.[24]

The main problem with many of these studies, besides the problematic notion of representation,[25] lies in the fact that cognitive psychology tends to design experiments through the lens of a "Can you hear it?" question, when the more basic question is "*what* do you mean by *it*?" or "how is the perceptual 'it' is constituted in experience?" These latter questions, while not parting ways with empiricism, are more phenomenological and interpretive. More specifically, the problem is that while psychological studies frame the problem of perceptual experience as the ability (or inability) to map a mental representation onto a musical stimulus, there is always a potentially indefinite number of representations that can be accurately mapped onto any given stimulus so that there will *always* be a representation; it is only a matter of what that representation *is* given the varied experiences, interests, and what I describe in Chapter 3, following Heidegger, as the "totality of involvements" of listeners. It is the latter *interpretive* questions, which aren't always amenable to empirical investigation (which require hypotheses that are predictive and falsifiable), that I am interested in. Yet, even though the approach I take is not empirical, the highly thoughtful experiments that have accumulated over the last several decades, as well as the theoretical accounts developed from these experiments, serve as a rich resource that I draw on throughout the dissertation even as I often draw different conclusions from those of the researchers.

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[24] See Lerdahl (1992).
[25] See Clarke (2005) and Noë (2012) for critical assessment of the concept of mental representation.

OVERVIEW

The aim of this dissertation is thus to rethink notions of chord quality and pitch structure in twentieth-century music by examining how tones show up for experience. In the process of doing so, great emphasis is placed on taking the *qualitative* dimensions of chord quality, in all of their expressive, affective, cultural, and ideological significance seriously.

In Chapter 2 I set the stage for the rest of the dissertation by scrutinizing the object of inquiry that has dominated studies of post-tonal music by asking the perhaps odd question of what theorists mean when they say they are investigating "pitch structure." Specifically, I explore three more or less tacit assumptions in music theory: that pitch structure is governed by "intrinsic properties of collections," that pitch is an autonomous parameter, and that the appropriate level of pitch structure is at the "neutral level" (to use the language of music semiotics). I argue that all three assumptions presuppose an under-thought conception of intervals as discrete quantities and musical experience as the *predication* of these quantities. The main problem with these assumptions is that it leads to an account of intervals that is amodal, and thus incapable of distinguishing among musical phenomena, physical objects, abstract numbers, and so forth. As a result, such accounts of pitch structure are epiphenomenal to the modes of being of intervals and pitch organization more generally that these accounts of pitch structure are presumably attempting to account for.

In Chapter 3, I offer an alternative understanding of pitch structure in twentieth-century music that begins with the question of what it is *to be* an instance of pitch structure *for experience*. Given the breadth of this subject, however, I explore this question by rethinking an "element" that might be considered a primitive of many theories of chord quality and transformational theory, the musical interval. In particular, I examine the question of what it is *to*

be a musical interval. In this chapter, I move decisively away from the conception of intervals as discrete quantities and experience as the predication of properties to an account that argues that what it is *to be* an interval are all those conditions (e.g., cultural, formal, etc.) under which an interval becomes intelligible *as such for* experience. At the heart of these conditions of intelligibility of musical intervals is, following a Heideggerian and Merleau-Pontyian perspective, our concerned involvement with musical situations and, adapting ideas from Bakhtinian dialogism, our responsive understanding of alien perspectives on the "same" notes and situations that intervals participate in. Such musical situations include aspects of expression, motivic function, rhythmic flow, topical references, and so forth. From this perspective, musical experience is conceptualized as an *immersion in a situation* founded by our concerned involvement, and intervals are only ever *aspects*, or characteristics, of these holistic situations. Thus, I offer an account of musical intervals that is non-autonomous and necessarily dependent on so-called "external" or extramusical properties that go beyond the "tones themselves." Furthermore, because our concerned involvement with musical situations and responsive understanding functions as the condition of intelligibility of intervals, a neutral level account of pitch structure (and intervals in particular) is a contradiction in terms. Musical intervals are fundamentally dialogical. Chapter 4 synthesizes these ideas in an extended analytical case study that brings all these points together and explores what it is *to be* an "atonal tritone" in twentieth-century music.

Chapter 5 picks up on an idea that is present in many of the analytical examples in Chapter 4: that expressive meaning plays a constitutive role in the sonic identity of musical tones. In treating expressive meaning as a constitutive dimension of tone presence, I revisit semiotic approaches, especially topic theory, that treat meaning as a *representational entity* (i.e.,

a sign) that associates a signifier (sound image) to a signified (concept or cultural unit) by virtue of a cultural competence (a code) that a listener brings to bear in experience. While I do not dispute that there are cases where we do *represent* meaning in musical, I offer an alternative to semiotic accounts by treating the relationship between musical tone and cultural meaning in more holistic terms. That is, I treat this relationship as a kind of figure-ground relation in which culturally and historically contingent forms of meaning act as the holistic background, by virtue of which the intervallic "part" is made intelligible as such. In doing so, I draw on certain concepts from Jenefer Robinson's treatment of emotional *processes* in understanding art, Bourdieu's concept of the habitus, the interpretant and cultural unit in semiotics, and, although I do not mention specific concepts, the study is heavily influenced by Merleau-Ponty's critique of the concept of sensations in *The Phenomenology of Perception*. I end this chapter with a case study of a newly proposed topic, estrangement, to illustrate how topic theory can be retooled to help account for the constitutive role of expressive meaning in tone presence.

In the final chapter on Messiaen's "demeurer dans l'amour" from *Eclairs sur l'au-dela*, I explore concepts of chord quality and expression as they manifest in ongoing phrase formations. I do so by combining Messiaen's own ideas about color and chord quality with writings on construal phenomena in language, Matthew Butterfield's treatment of the musical object as an idealized cognitive model, and Christopher Hasty's extensive writings on temporal process in twentieth-century music. The goal in these chapters is not to attack formalist approaches to pitch structure, but rather to explore the qualitative and expressive richness that is a constitutive dimension of how musical tone shows up for experience in twentieth-century music.

Chapter Two

On the Meanings of Pitch Structure in Music Theory

INTRODUCTION

Whenever polemical arguments arise over the pitch structure of post-tonal music, one of the central questions that grounds these polemics is "*Can* you hear it." But the more basic question is not whether you can hear it, but "*what* do you mean by *it*." While the former question concerns ability and cognitive constraints—that is, it focuses on what can*not* be heard rather than what *is* heard—the latter is a question of meaning and interpretation. Since we cannot answer the question of what one can or cannot hear until we have a firmer grasp of what the object of post-tonal pitch structure is, the question "what we mean by *it*" is in some sense more fundamental. It is this latter question that is the focus of this chapter. More specifically, I ask what it is *to be* a musical interval for experience in twentieth-century music. While focusing on such a minute element of musical experience might seem extremely myopic, this very basic question underlies all of the broader cultural questions about tone presence that arise in the following chapters.

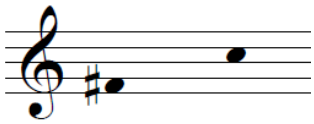
For many readers, the question of what it is to be a musical interval in twentieth-century music might seem odd, since it seems *obvious* what an interval is. An excellent definition of intervals in post-tonal music, with an elaboration of the distinction between tonal and post-tonal intervals, is found in Straus's *Introduction to Post-Tonal Theory*:

> Because of enharmonic equivalence, we will no longer need different names for intervals with the same absolute size—for example, diminished fourths and major thirds. In tonal music, such distinctions are crucial; intervals are defined and named according to their

> tonal function. A third, for example, is an interval that spans three steps of the diatonic scale, while a fourth spans four steps. A major third is consonant, while a diminished fourth is dissonant. In music that doesn't use diatonic scales and doesn't systematically distinguish between consonance and dissonance, it seems cumbersome and even misleading to use traditional interval names. It will be easier *and more accurate musically* just to name intervals according to the number of semitones they contain. The intervals between C and E and between C and F♭ both contain four semitones and are both instances of interval 4…[1]

In short, with the disappearance of the qualitative distinctions made possible by common-practice tonality, the only thing that remains of intervals in post-tonal music is an *absolute distance* between two notes measured in semitones. And it is this absolute distance that defines what it is *to be* an interval in post-tonal music. End of story.

But consider this simple thought experiment. Suppose someone approached you and a few friends and performed (as opposed to showing you) the following interval on the keyboard (see Example 2.1), and asked, "what is this interval?" Now, the simple answer might be that it is a *just* a tritone (again, the interval in this thought experiment is *performed* rather than shown).



Example 2.1. "What is this Interval?"

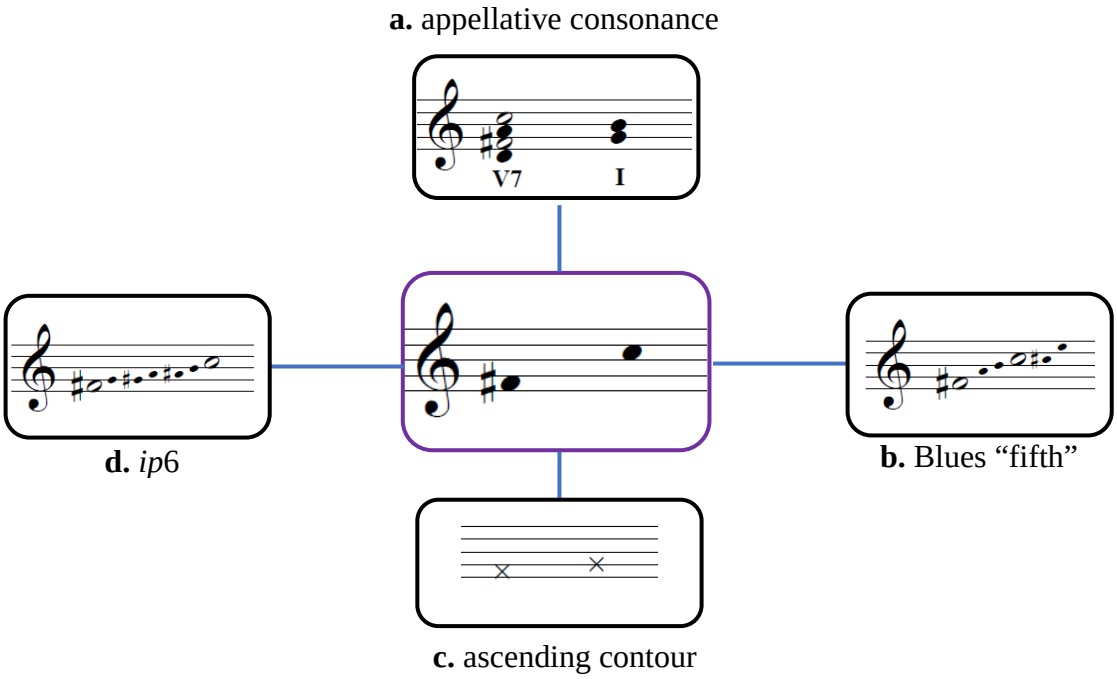
[1] Straus (2005a, 6-7), emphasis my own. It is important to note that the phrase "easier and more accurately musically" is removed from the fourth edition of the textbook. Instead, he (Straus 2016, 7) states simply that "intervals in post-tonal music are named by the number of semitones they contain." Even with this change, I still argue against simplifying definitions of intervals in post-tonal music to the number of semitones they contain even if it is pedagogically convenient to do so

But, suppose, one friend disagrees and says, "Your answer is *false*, this interval is a clear instance of Fétis's appellative consonance defined by the fundamental dominant seventh chord it participates in and the *implication* of the resolution to scale degrees $\hat{1}$ and $\hat{3}$, in G major which are *constitutive* of this interval's sonic identity (see Example 2.2a) as well as its imagined status as the chord giving birth to modern tonality."[2] Or, suppose someone else suggests that both answers are false, and interprets this interval as an example of a flatted-fifth in the Blues tonal system, with all its *dialogic* connotations of a *challenge* to the "proper" harmonic and voice-leading behavior of scale degree $\hat{5}$ in classical music (Example 2.2b). Or, perhaps it is perceived by someone without musical training as simply an "ascending contour" (Example 2.2c). Lastly, suppose someone else suggests that all of these readings are misguided as they are all based upon *implications, connotations,* and *training* rather than the *interval itself* and that, as such, this interval is simply a "pure" *ip*6 (pitch interval 6) following Straus's definition above (Example 2.2d). And, of course, we could multiply the interpretations of this interval indefinitely (e.g., it is not a *pitch interval*, it is a *pitch class interval*, a fourth in the Lydian mode, a diminished fifth in D♭ Major, etc.). With all of these different opinions about the sonic identity of this interval, how do we decide which answer is *correct*?

Of course, all these answers could be correct. It is simply (but, importantly) that each conceptualizes the relation between the two notes in different ways and therefore results in a unique sounding presence. Thus, paraphrasing David Huron, there is no single "right" way to represent a pressure wave.[3] "But," someone might ask, "aren't these all just different subjective *interpretations* of the *same objective interval*?" After all, in the thought experiment, the interval

[2] For a discussion of the appellative consonance and its relation to Fétis's historicist conception of tonality, see Christensen (1996).

[3] Huron (2006, 101). Steven Rings (2011, 21), summarizing an important phenomenological point about Lewin's GIS technology makes a similar point: "GIS technology is responsive to the fact that one will be inclined to



Example 2.2. Four Interpretations of the "same" Interval

that led to four different interpretations was initiated by a single sounding event on the piano. Furthermore, if these are simply *subjective* interpretations of the same interval, what is wrong with identifying the "objective" interval by counting the number of semitones that it contains in our equal tempered system represented by the universe of twelve pitch-classes, as Straus does in the quotation above?

There are a number of problems with this suggestion, but here I will mention two. First, although the idea that these interpretations represent different perspectives on the "same" interval sounds reasonable, a problem arises as soon as we ask in what this property of "sameness"

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experience an interval from G4 to E♭4 in diverse ways based on the musical context within which one encounters those pitches. There is thus no single 'interval from G4 to E♭4.'"

inheres. If we assert it is the physical stimulus that determines the "sameness" of these interpretations, a problem shows up immediately, for we can vary the physical stimulus indefinitely and it will still be considered an appellative consonance, "ascending contour," etc. (e.g., measured in cents, an interval of 600, 601, 600.1, 600.01, and so forth is still understood as the *same* interval). Second, even if we say there is a mental concept that determines the "sameness" of all of these interpretations, this concept for "sameness" will not reduce to the same background knowledge (knowledge about prototypes, best exemplars, the contexts in which these distinct intervals occur, etc.) as the individual concepts of Blues fifths, appellative consonances, etc.[4] As such, the concept that groups these instances together under certain criteria is itself defined according to its own unique background knowledge (e.g., knowledge about when to interpret these judgments as the same). Thus, intervallic "sameness" is just another subjective judgment like all the other interpretations in Example 2.2. Not only is there no single "right" way to represent a sounding interval, each of the above interpretations represents *different* intervals not objectively given by the stimulus or reducible to an all-encompassing mental concept.

Now, supposing that there is some objective sense in which these intervals are all the same, it still would not hold that counting the number of semitones this interval (metaphorically) contains is the most "musically accurate" way of characterizing the sounding presence of this interval. A very compelling reason why this is the case is offered by Christopher Hasty, and it is worth quoting at length:

> The relationship of pitches, what they define or "delimit," is, minimally, an interval. We measure intervals and normally use numbers to do this, but the numbers, of course, have no connection to temporal passage. Also, the traditional nomenclature mixes qualitative

[4] A very clear and succinct summary (and critique) of the cognitive science literature of concepts can be found in Malt (2010). For a more extended discussion, see Murphy (2002).

> and numerical terminology (as in "minor third") and implicitly relates the interval to the organization of a given arrangement of tones we call the diatonic scale. However, this "scale" is heterogeneous and its members or gradations are functionally and qualitatively differentiated, with the result that measurements are not absolute (thus the distinctions between "minor third" and "augmented second," both of which may be said to "span" or to "contain" three semitones). We can, of course, make the scale homogeneous and measure intervals using the absolute unit of the semitone…thereby effecting a genuine numerical measurement…But even so, the semitones used in this sort of measurement do not seem to have the same perceptual reality of metrical beats because we can, presumably, hear three actual (sounded or imagined) beats in a passage. In the case of pitch interval 3, however, we do not hear three actual semitones; the unit of measurement is, instead, a potentiality and, perhaps, even a mere convenience. That is, there *could be* three semitones sounded between the pitches or, equivalently, a whole and a half step.[5]

This passage is very rich and suggestive, especially with respect to the temporal issues that are the focus of his discussion, but let me offer a few interpretive glosses on this passage as it pertains to the issue of whether defining intervals by the number of semitones they contain is "musically accurate." In particular, there are three important points that I take away from Hasty's discussion of intervals. First, the relationships possible between pitches is *minimally* an interval. That is, since we often think of intervals *as* numeric distances, the relationships between pitches is at bottom an interval, *but it is also much more than this*, which takes me to the second point; that the arrangement and organization of tones called a "scale" (and note the scare-quotes in Hasty's text), used to measure these intervals is itself a *homogenization* of functions and qualities

[5] Hasty (1997, 60), emphasis in original.

that are constitutive of what it is *to be* a member of this scale. These "heterogeneous" qualities and functions help to distinguish, for example, a minor third from an augmented second. And, I would add, treating the scale as a unit of measurement, is an act of homogenization, whether we are talking about tonal music, neo-modal music, or post-tonal music (and the "boundaries" between these repertoires is anything but clear, a point I return to below). Moreover, Hasty's point that there is no absolute ("homogeneous") interval relates to the discussion of *ip*6 in connection to Example 2.2. There, I argued that the so-called objective interval containing all interpretations, *is itself* just another subjective interpretation constituted by distinct conceptual knowledge about what it is to be this interval. What holds for *ip6* also holds for the semitone (i.e., there is no "right" way to represent a semitone). As such, even the semitone is *not* an absolute unit of measurement, but is defined relative to the heterogeneous qualitative and functional distinctions that allow it to be interpreted *as* such.[6] The last point is perhaps the simplest, but also most compelling reason why it is problematic to define intervals in terms of the number of semitones they contain. Drawing an analogy with the perception of beats (virtual or sounding) in metrical music, Hasty notes that while it is possible to feel the perceptual presence of three quarter-note beats independent of their literal sounding given a particular metrical context, there is no real sense in which three semitones are perceived in an instance of *ip* 3. As such, it exists merely as a potential, or perhaps, even worse, a "mere convenience."

In summary, what it is *to be* a musical interval is not as self-evident as it initially appears, and it seems hard to imagine what a completely mind-independent, objective ground for the indefinite multiplicity of subjective interpretations of musical intervals would look (or sound) like. On the other hand, merely observing that intervals are the product of subjective

[6] What these functional and qualitative distinctions are, is a subject I address both in Chapter 6, and, more generally, in the rest of the dissertation.

interpretations still does not answer the question of what it is *to be* an interval (moreover, there is an enormous literature in twentieth-century thought that has called into question traditional ideas about the modern subject and subjective experience in general).[7] In other words, we still haven't addressed the question of what, for example, it is to be a "Blues fifth" as opposed to an appellative consonance *for experience*.

Before approaching that question, there is one more very trenchant argument that I still have not addressed concerning the objective basis of intervals. That is, even if we agree with Rings and Lewin that there is "no single interval from G4 to E♭4," and that the interpretations in Example 2.2 therefore represent different *intervals*, one could still argue that the *condition of the possibility* for there being any intersubjective agreement about these or any intervals (as well as the possibility of incorrect judgments, e.g., we can all agree that Example 2.1 is NOT a minor third) is that there be some objective given *on the basis of which* we come to agree. Since we *do* come to agree about the interpretation of intervals (e.g., in the learning of intervals as correct and incorrect in the aural skills classroom), it must be this "objective given" *on the basis of which* correct and incorrect judgments are made, which constitutes what it is to be an interval, chord, chord genera, and pitch structure in general.

It is precisely this "objective given" of perceptual experience, which is the focus of most studies of pitch structure in music theory, that I hope to problematize. In what follows I examine this given by asking the simple question of what theorists mean by "pitch structure" and how it relates to musical experience. I do this in a somewhat circumscribed way by scrutinizing three implicit assumptions I argue underlie most accounts of pitch structure in music theory: 1) that the

[7] Since the literature calling into question traditional enlightenment conceptions of subjectivity in the twentieth century has been addressed from virtually every disciplinary perspective, I will mention here three that bring to bear these issues in the study of music, each from their own unique perspectives: Cumming (2000), Steinberg (2004), Klein (2015).

"object" of inquiry is defined in terms of *intrinsic properties* of pitch relationships, 2) that pitch is an *autonomous parameter*, and that 3) analysis of pitch structure should proceed at the "neutral level" of description, independent of thought processes that went into its creation (the "poietic level") or perception ("esthesic level"). I argue that all three assumptions necessarily lead to an epiphenomenal, amodal account of pitch organization in music that leaves an unbridgeable chasm between the object of inquiry ("pitch structure") and the experience of this object.

In the second part, "On the Modes of Being of Musical Intervals," I part ways with these assumptions and attempt to reconfigure one traditional object of inquiry in post-tonal theory that has played an important role in recent theories of chord quality and similarity relations, musical intervals. My point of departure for this section is the first epigraph of this chapter, in which the twentieth-century French philosopher Maurice Merleau-Ponty offers a perspective on perceptual experience as being "made possible" not by an objective given of experience, but by one's "involvement in a point of view." Within this broader, involved perspective of perceptual experience, I argue for a *qualitative* account of what it is to be a musical interval that rejects the distinction between intrinsic and extrinsic properties of musical tone (a term I use in place of pitch), treats musical tone as a non-autonomous *aspect* (rather than property or parameter) of a *holistic situation*, and suggests that the appropriate level analysis of musical intervals is neither poietic, neutral, or esthesic, but *dialogic* in nature.

DEFINING "PITCH STRUCTURE"

In a well-known essay-review, David Beach described the primary concern of much theory of his day (as well as ours) as the "discovery, description, and codification of principles of

pitch structure."[8] For anyone with even a casual familiarity with North American music theory, this statement is obvious. However, as soon as we examine the matter a little further, it is not entirely clear what the actual *object* of inquiry for the "principles of pitch structure" is.[9] While one might say that the study of pitch structure concerns the *experienced* "patterns in sound" and *mental representations* specific to particular idioms, there is a very large body of work on pitch structure in music theory (perhaps, the majority of studies) where this answer is not so clear.[10]

There are a number of reasons why this is so. For one, the nature of musical experience is neither simple nor self-evident (a theme that is a mainstay of this entire dissertation), and such issues are rarely addressed in the literature on pitch structure. (Theorists and cognitive scientists studying twentieth-century music have been more interested in the "*Can* you hear it" question, rather than the "What do you mean by *it*?" question). Another reason why it is not clear theorists have the *experience* of patterns of sound in mind when discussing pitch structure is that perceptual experience is *inherently subjective* (i.e., from a first-person perspective), and while theorists have long acknowledged the role of subjective agency in *analysis*, when it comes to the *theorizing* of pitch structure, much of this theory adopts what George Lakoff calls an "objectivist" approach entirely independent of anyone's embodied understanding of music.[11] Such an objectivist approach is present in any account that makes an appeal to the "tones

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[8] Beach (1979, 7).
[9] See for example, Lochhead (2016) for a critical examination of the notion of musical structure.
[10] The idea that musical structure equates to "perceived patterns of sound" is clearly represented in Ockelford (2011, 239): "It has long been acknowledged in a wide range of musicological literatures–from the celebrated early twentieth-century *Harmonielehre* of Heinrich Schenker (1906) and Arnold Schoenberg (1911), for example, to the influential texts on music and meaning formulated by Leonard Meyer (1956, 1967, 1973) and the innovative, mathematically inspired thinking of David Lewin (1987)–that structure equates to patterns in sound, to regularities in the perceived sonic fabric." For a view of pitch structure as equating to mental representations, see Lerdahl and Jackendoff (1983).
[11] For an excellent account of the role of subjective agency in analysis, see Guck (2006). For a succinct summary of the "objectivist" worldview, see Lakoff (1987, 157-184).

themselves"[12] and its various relatives (the "music itself," "collection itself," "universe of twelve pitch-classes itself"). Although I will not be addressing such approaches in this chapter, it should be noted that objectivist approaches are also present in cognitivist perspectives such as that of David Temperley, which *presupposes* a sharp distinction between *descriptive* accounts, concerned with unconscious mental representations of music (i.e., the "mental representations *themselves*"), and *prescriptive* (or, "suggestive") accounts, aimed at the education and enhancement of musical listening.[13] In both cases, there is a presupposed dualist opposition between the *act* of listening and the *object* of this listening. In the former, it is the object which is reified, whereas in the latter, listening becomes an objectified reality (often stated in terms of stable *mental representation* existing independently of any active engagement with sound).[14]

What are these "tones themselves" and how do they relate to musical experience, which, again, is *always* subjective? Also, how does the description of these tones themselves relate to our original question about what it is to be a musical interval? Of course, given the range of perspectives on these questions, rarely addressed explicitly, it is hard to arrive at any conclusive answers; however, there are certain implicit assumptions about pitch structure that show up over and over throughout the literature. As such, I approach the question of the meaning of pitch structure in music theory in a somewhat circumscribed way by examining the three aforementioned assumptions *about* pitch structure that have constrained our understanding of the subject of what it is *to be* an experience of intervals and musical tone in general.

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[12] Straus (2005b)
[13] Temperley (1999).
[14] This chapter focuses primarily on objectivist approaches that reify the object of inquiry (as opposed to the reification of musical listening). However, it should be noted that, perhaps, no notion has been more scrutinized in the phenomenological literature than that of a "mental representation." For a critique of this notion in music cognition, see Clarke (2005, 15). For phenomenological critiques of the notion of perceptual experience *as* representation, see, for example Gallagher and Zahavi (2008, 111-113) and Noë (2012, 30-31).

In what follows, I explore these assumptions in specific texts, with an eye toward how they express a tacit assumption about musical experience more generally. However, there are a few caveats that should be kept in mind before I proceed. First, since pitch structure has been *the* focus of music theory since its inception, it is impossible to be exhaustive in demonstrating the manifestation of these assumptions in the literature. Instead, I focus on a few representative examples for each assumption primarily in the literature on post-tonal music. Additionally, since I am examining these texts for their *implicit assumptions* about pitch structure, whatever critique I offer should not be seen as a critique of these texts *in toto*. Many of the analyses in these texts are quite brilliant, so I don't want my critiques to be seen as rejection of this literature in general. With that in mind, I turn to the idea of internal properties in a seminal essay by Richard Cohn.

"INTRINSIC PROPERTIES" OF PITCH STRUCTURE

At the beginning of a study concerning the uses and significance of the octatonic collection in Bartók's music, Richard Cohn sets up a distinction between the internal properties of these collections and those he considers to be external to the collection "itself." This is done, in part, to distinguish his research from prior work on the octatonic collection in twentieth-century music. Describing the precise sense in which properties can be internal, he writes, "These properties are internal in the sense that their determination requires appealing to no entities outside of the collection itself, except for the universe of twelve pitch-classes which serves as the background against which all pitch entities are defined."[15] The examples he gives of internal properties with respect to the octatonic collection includes: the asymmetrical distribution of intervals (more IC3s); the fact the collection maps into itself under four distinct

[15] Cohn 1991, 263.

transpositions and four inversions that yield three distinct forms, and eight potential axis of symmetry, respectively; and, finally, the fact that the octatonic collection has a comparatively smaller number of distinct subset classes in relation to other eight-note collections. In contrast to these properties, he describes properties as external to the extent that "they depend on a relationship to other entities and concepts that bear prior privileged status in the musical tradition."[16] Examples of external properties include: the potential for the collection to articulate multiple tonal centers; the fact that the collection contains "semantically rich subsets" such as consonant triads, seventh chords, French sixth chords, and minor tetrachords (0235); and the ability to modulate into diatonic collections (e.g., those associated with folk music).

What is definitive of internal properties, then, is a matter of whether these properties require appeal to *entities* and *concepts* outside the collection *itself*; and, what is more, the kinds of "entities" that appear to be internal are precisely those properties *absent* of tonal or modal associations. In fact, this is no accident, as the distinction between internal and external properties is most prominently represented in post-tonal theory. This distinction shows up particularly in studies that make implicit or explicit reference to the "inherent" properties of the universe of twelve-pitch classes or that describe tonal/modal qualities in post-tonal music as "associations."[17] There are many possible reasons why this distinction is more common in post-tonal studies than it is in tonal studies, but here I will mention one. The porous *experiential* boundaries between tonal and atonal music (if there are any) in twentieth-century music have rendered most attempts at a strict definition of tonal versus atonal music artificial. As such, establishing a strict distinction between intrinsic/internal/inherent properties and

[16] Ibid.
[17] This is the case for example in the work on similarity relations and chord quality such as Quinn (2001, 2006/2007). As Quinn (2001, 109) notes, similarity relations tell us what we already know "in terms of the inherent properties of the twelve-tone equal-tempered universe of pitch classes."

extrinsic/external properties allows one to make claims about a work's pitch structure *without* having to worry about whether the formal apparatus deployed is appropriate to the experience of the music in question. This is because it does not matter if one *thinks* these intrinsic properties accurately represent the experiential properties of a particular repertoire; these properties *inhere* in a work's pitch structure, *by definition*, regardless of how one experiences the music. Thus, a focus on inherent properties allows one to avoid questions of whether some ambiguous piece of twentieth-century music is tonal or atonal and therefore whether the formal technique developed is *appropriate*. Such questions are relegated to matters of association and external properties.

But what *kind* of "entity" is the collection *itself* to which these internal properties refer? Technically speaking, one cannot disagree that, for example, the asymmetrical distribution of interval classes, as an *internal* property, only makes reference to aspects of the collection itself, and can therefore be said to be *determined* by this collection. And, conversely, the *reference* of (0235), as a subset of the octatonic collection, to the first four notes of a minor scale is an *external* property because it obviously makes reference to a collection *other* than itself. This much is incontrovertible. However, it is not at all clear what *kind* of a property this internal property is until we understand what the collection *itself* is, but this *itself* is, *by definition*, a purely formal entity. The collection itself is defined in *amodal* terms (not referring to any particular modality of experience). That is, because the terms used to define the collection "itself" are derived from aspects of pure mathematics (e.g., modulo 12 arithmetic, which constitutes the "universe of twelve pitch-classes" that defines all "pitch entities" for Cohn)—one *cannot* distinguish between an octatonic collection of numbers, octatonic collection of polygons, and a musical manifestation of the octatonic collection.[18] The only way to *distinguish* between

[18] The idea that Cohn's octatonic collection is defined in amodal terms is related to a point that Julian Hook makes about Lewin's GIS and Transformational Networks (2007, 157 [footnote]): "Their musical motivations

"musical" and "non-musical" instances of the octatonic collection would be to make an appeal to a wide-range of concepts *outside* the collection itself, especially those "semantically rich" subsets described by Cohn as external properties (i.e., those connected to a broader musical tradition that serves as a reference point for the collection's musical identity).[19]

Let me emphasize that this is not an anti-formalist argument. To the contrary, much of the formal apparatus that Cohn develops gives valuable insight into Bartók's music. However, since the elements of this formal apparatus are amodal, the apparatus is essentially epiphenomenal to the *musical* experience that the model is meant to account for. The reason for this, as we will see in Chapter 3, is that, musical tone as constituted in experience, is *never* a self-sufficient entity (a tone *itself*). Part and parcel of what it is *to be* a tone (or interval, chord, etc.) are all those conditions under which it becomes intelligible as such, and these conditions defy any boundary between internal and external properties of tone.

In short, treating pitch structure as a self-sufficient entity with its own internal properties necessarily leads to an unbridgeable gap between theory and experience because the object of the theory is *transformed* into an amodal object incapable of distinguishing between musical and non-musical instances of the object, and thus ignores the question of what it is *to be* a pitch (as opposed to a physical or numerical) structure. This is because pitch structure in the cultural practice of music is not a self-sufficient entity and the particular qualities of tone we experience

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notwithstanding, a surprisingly large number of the concepts in *GMIT* [Generalized Musical Intervals and Transformations] are in effect pure mathematics, could be developed at length with no mention of music, and could lend themselves to applications in fields other than music. Thus, one can easily imagine Generalized Interval Systems used to model spatial relationships among physical objects, or transformation networks whose objects are numbers and whose transformations are mathematical functions of various kinds."

[19] Additionally, as we have learned from conceptual metaphor theory that much of our abstract concepts are rooted in, and made intelligible by metaphors related to our embodied experience. So in this, abstract concepts are always explained in terms of "external" properties. For a nice overview of conceptual metaphor theory, including related approaches such as conceptual integration networks, see Kövecses (2010). The application of such approaches ranges widely across different repertoires and theoretical issues in music studies, but see, for example, Saslaw (1996), Brower (2000), and Zbikowski (2002).

in music (e.g., the Blues Fifth in Example 2.2b) are made intelligible by a wide range of conceptual knowledge outside of the tones themselves. Therefore, if the notion of "intrinsic properties" of pitch structure is both *epiphenomenal* and incoherent without an appeal to so-called extrinsic properties, then it seems fruitless to make the distinction in the first place.

While the discussion of the problematic opposition of intrinsic versus extrinsic properties of pitch structure has been fairly abstract, I think it will be helpful to clarify why this opposition is so problematic by turning to a related, but distinct assumption about pitch. It is an assumption that was most clearly articulated by Leonard Meyer in *Style and Music: Theory, History and Ideology*; that is, the idea that pitch constitutes an autonomous parameter.

PITCH AS AN AUTONOMOUS PARAMETER

Before describing his more influential distinction between primary (or, syntactical) and secondary (or, statistical) parameters in music, Leonard Meyer introduces the more general concept of a parameter in the context of a discussion of the role of constraints in cognition and human society in general.[20] There he defines a parameter as an "area of human activity" that is "governed by *somewhat* different constraints."[21] Included in his examples of parameters are such "fields" of cultural activity as politics and economics, science, sports, games, religion, and the arts. Summarizing what distinguishes one parameter from the other, he writes, "When two spheres of human activity—or of relationships in the natural world—are found to be governed by somewhat different constraints, they tend to be distinguished as being different parameters."[22] He goes on to note that when two parameters are thus distinguished, they are said to be

[20] See Meyer (1989, 14-15) for his discussion of primary and secondary parameters.
[21] Ibid., 9, emphasis my own.
[22] Ibid.

"external" to one another, and that such externality of parameters is suggested by any description of one parameter "influencing" another (after all, you cannot have one parameter affect another if they are the same parameter).[23] Thus, the parameters in music (which are similar to Hasty's notion of "domains"[24]) such as rhythm, timbre, pitch, texture, dynamics, and so forth are often treated as mutually *influencing* one another, and, as such, treated as *external* parameters that have their own *degree* of autonomy (I emphasize "degree" here since Meyer himself states that parameters are governed by "somewhat" different constraints in the quote above and that in reality his social examples of parameters do, in fact, overlap). Following this general discussion of parameters, Meyer goes on to describe the conditions which make pitch and rhythm examples of primary parameters, while dynamics, tempo and timbre are regarded as secondary parameters. While Meyer's distinction between primary and secondary parameters has been much discussed in the literature, in this section I will focus strictly on the claims of each parameter's autonomy.

Before doing so, however, I should note that while Meyer's is perhaps the most clear, succinct, and explicit discussion of the autonomy of musical (and other) parameters, the discussion of parametric independence is most commonly addressed in the context of the relationship between rhythm and pitch. In particular, arguments about the autonomy of parameters tend to revolve around the degree to which we can actually speak of the existence of these two dimensions as *independent* of one another. Thus, responding to a claim made by Charles Rosen (and many others) that melody cannot exist without a specific rhythmic contour, Carl Schachter writes, "Of course no melody could exist without a rhythmic contour (has anyone ever suggested that it could?). But does it then follow that any separation of the elements of music must be 'nonsensical'? Only, I think, if the separation plays no role in our perception of

[23] Ibid.
[24] Hasty (1981a)

music; in music theory the nonsensical is the unhearable."[25] In this essay, which is a classic in studies of rhythm and meter, Schachter goes on to make a simple, yet very compelling case for why it is fruitful and not at all nonsensical to treat pitch as an independent element in analysis.[26] One simple example he gives of the independence of rhythm and pitch is in melodic variations, which he notes is not just a particular feature of certain genres of melodic composition, but a pervasive feature of *all* tonal music. Of course, even more basic examples of the independence of rhythm, pitch, and other parameters is ready-to-hand: some pitch can be heard *as* a scale degree (e.g., $\hat{5}$ in F Major), regardless of whether this note is played on a clarinet or piano, whether it is in a high or low register, the second beat of a measure or the fourth, a dotted-half note or whole note, soft or loud. As such, the concept of a scale degree (as well as more complex notions of linear progressions) must somehow be independent of these other parameters (rhythm, timbre, tempo, dynamics, etc.).[27] Therefore, the idea that pitch is an autonomous parameter does NOT seem to be an *assumption* lying behind the meaning of "pitch structure" in music theory, but a well-argued fact of musical experience. What is there to debate?

For one, none of these examples resolves a seemingly paradoxical aspect of perceptual experience: that, while we can certainly experience something *as* a particular scale degree in an indefinite range of musical contexts, there are no such things as *durationless* pitches, durational patterns *without timbre*, musical tones without dynamics, and so on. This is because perceptual

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[25] Schachter (1999, 19).

[26] Of course, he also goes on to note that the *Ursatz* in Schenkerian thought does have an aspect of rhythm through his concept of "tonal rhythm" even if this tonal rhythm does not reduce to what he calls "durational rhythm" (Schachter 1999, 36-37). Now, whether the distinction between tonal rhythm and durational rhythm is entirely foolproof is another question altogether. Some authors (e.g., Hasty 1997, 1999) view the simplification of rhythm as "durational pattern" as overly reductive. As Hasty (1999, 280) puts it in a pithy response to Justin London's definition of rhythm, "'I got rhythm' does not mean 'I got the durational *structure* of a pattern.'"

[27] This example of the scale degree also recalls William Rothstein's important distinction between a note and tone, in which the latter is more abstract than the former are more specific (i.e., notes are tones of specific duration, timbre, dynamics etc.). As he notes (1991, 293), "They [tones] are not what we 'hear' in the literal sense of that word; rather they are a way of representing to ourselves what we have heard already."

experience is always *holistic*. And yet, we do seem to have concepts ("background knowledge") of tones independent of their concrete manifestation. Two questions arise from this seemingly paradoxical situation: first, *what* is this background knowledge which is constitutive of what it is *to be* a musical tone (e.g., a scale degree, linear progression, set-class (024), etc.) and, second, *how* does this knowledge relate to and come to have a bearing on the holistic nature of concrete *acts* of perceptual experience? These are very difficult questions on which much ink has been spilt and I will return to them in much more depth in Chapter 3 and throughout the rest of this dissertation. For now, let me briefly note a few problems with the account of pitch as an autonomous parameter as elaborated so eloquently by Meyer and Schachter.

Certainly, when pitch is treated as an *abstract category*, it is easy to imagine that pitch has an existence independent of any particular durational, timbral, and dynamic instantiation. However, as soon as we go beyond abstract definitions and ask what it is *to be* this particular category of tone (e.g., the "agent" of Dominant function[28]) as opposed to another (e.g., the leading tone in minor) *for experience*, the factors involved in such a definition cannot be reduced to *intrinsic* properties of the tones themselves for many of the reasons developed above. Instead, these definitions, as we will see, include all kinds of information about affect, expectations, qualitative aspects of duration, and so forth. This conception of tone is present in an early article on rhythm in post-tonal music by Hasty, where he defined scale degrees in terms of their "inherent motive qualities."[29] More recently, David Huron has listed seven semantic categories that frequently show up in his survey of qualitative attributes of three scale degrees, none of

[28] The agent of a dominant triad is the third of this chord. The language of "agents" is taken from Harrison (1994, 49-55).
[29] Hasty (1981b, 192).

which can be reduced to a "pure" (intrinsic) property of pitch (whatever that could be).[30] In short, just as "internal" properties are incapable of distinguishing between musical and non-musical instantiations of the phenomena in question without appeal to "external" properties, specific categories of musical pitch cannot be defined and differentiated from alternative interpretations without referring to other parameters outside themselves. Therefore, our categories of pitch have no autonomous status independent of other parameters, and the same holds for rhythm, timbre, and so forth.

Interestingly, Meyer's initial definition of parameters as "areas" of cultural activity and, especially his choice of examples of relatively autonomous parameters (economics, politics, art, etc.) are actually quite apt in a different sense that he might not have anticipated. The reason is that "autonomy" (even, the *relative* autonomy) of all of his examples of "areas" of cultural activity had been (and continues to be) held under scrutiny for quite some time before the publication of *Style and Music*. Famous examples include Foucault's calling into question of such "unities of discourse" as grammar, political economy, and so forth, as well as Eric Wolf's problematizing and critique of the tendency in the social sciences to reify abstract concepts such as nation, culture, and economy outside of the totality of relations that make these concepts intelligible.[31] In fact, even the autonomous status of language—the one area of human activity that music has been compared to most—has been called into question. Here is Talmy Givón describing the "*sine qua non*" of all functionalist approaches to language: "All functionalists subscribe to at least one fundamental assumption *sine qua non*, the non-autonomy postulate: that language (and grammar) can be neither described nor explained adequately as an autonomous

[30] Huron (2006, 146). These seven semantic categories, which help define Huron's scale degree qualia are: certainty/uncertainty, tendency, completion, mobility, stability, power, emotion.
[31] Foucault ([1969] 2010) and Wolf (1982, 1-23).

system. To understand what grammar is, and how and why it comes to be this way, one must make reference to the natural parameters that shape language and grammar: cognition and communication, the brain and language processing, social interaction and culture, change and variation, acquisition and evolution."[32] Analogously to the functionalist understanding of grammar, in order to understand what a musical interval *is*, one must make reference to a wide range of phenomena including expression, motivic function, rhythm (in the robust sense of this term that goes beyond durational pattern), etc. This does not mean that it is nonsensical to zero in on the tone presence of a passage, but it does mean that in the experience of pitch structure (what I am calling "tone presence"), pitch, or tone, is only ever an *aspect* of the holistic situation it participates in.

"NEUTRAL LEVEL" ANALYSIS OF PITCH STRUCTURE

The final assumption about the meaning of pitch structure in music theory relates to a set of distinctions that originated in the semiotic writings of Jean Molino, but is more widely known through the French musicologist, Jean-Jacques Nattiez. It is to the latter that I turn for an understanding of analysis at the neutral level. Arguing against the idea that semiotics concerns the study of communication, Nattiez adopts Molino's three dimensions of the "total symbolic fact" that constitutes the musical work: 1) the *poietic* dimension, which results from the "process of creation"; 2) the *esthesic* dimension, which concerns the "'construction' of meaning during the active process of listening"; and 3) the trace, which are all the "immanent or recurrent properties" of a work that are "embodied physically and materially" and "accessible to the five senses."[33] Each of these dimensions, in turn, has an appropriate form of analysis, with the

[32] Givón (1995, xv).
[33] Nattiez (1990, 11-12).

analysis of the trace, defined as "analysis of the neutral level." This tripartition into three levels of analysis of the "total symbolic fact" was meant to account for the very sensible idea that there is no single way to reduce a musical work to some kind of essence, that what one perceives in a work (esthesic level) may not correspond to what was intended by the composer (poietic level), and that there still persists a physical trace (including musical scores) that can be analyzed for its own sake without making any claim about whether such an analysis corresponds to an actual hearing of the piece or the composer's intentions (analysis of the neutral level). For Nattiez, analysis of the neutral level, as opposed to the poietic and esthesic level, was supposed to be purely "descriptive."[34] On the other hand, Nattiez acknowledges that analysis of the neutral level is a "methodological artefact" that seeks out a kind of unity in the total symbolic fact that might be otherwise overlooked if one focused on the poietic or esthesic level alone.[35]

It may seem odd that I bring up terminology from music semiology when this area of inquiry is but a small subset of music theory in general. Yet, the idea that we can approach a musical work, especially its pitch structure, from a neutral perspective that makes no claims about how the music *may* be "subjectively" perceived (the esthesic level), or how it may have been created (the poietic level) is pervasive in music theory. It shows up for example in Ethan Haimo's second type of analytical statement that "simply asserts that the features [in question] are, in some sense, 'there,' making no particular claims for their cause or origin."[36] In short, a

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[34] Ibid., 32.

[35] Ibid., 31. In fact, this idea of the neutral level as a methodological artefact is present in his full definition of analysis of the neutral level (ibid., 13, emphasis in original): *"This is a level of analysis at which one does not decide a priori whether the results generated by a specific analytical proceeding are relevant from the esthesic or poietic point of view…'Neutral' means both that the poietic and esthesic dimensions of the object have been 'neutralized,' and that one proceeds to the end of a given procedure regardless of the results obtained."* In other words, one's analysis of the trace *may* end up in the end being a kind of poietic or esthesic analysis, but the point of a neutral level analysis is that you attempt to suspend judgment concerning this fact in order to make general observations about the physical trace *itself*.

[36] Haimo (1996, 178). It should be noted that Haimo ultimately argues that claims about authorial intent (e.g., the conscious compositional decisions of Schoenberg), his type-one statement, should play a greater role in the analysis

neutral level understanding of pitch structure is implicit in any study that is not concerned with how this or that person *hears* pitch relationships, nor with how the composer put the pitch structure together, but simply with what is *there* (in "some sense" of the word "there," as Haimo aptly puts it). Additionally, a neutral level understanding of pitch is also exemplified in those approaches that see in the phenomenon of tonality an "objective" *system* defined by its inherent properties rather than the learned cognitive behavior of listeners.[37] Finally, even in those approaches that advocate for the strong subjective agency of music analysis, the idea of the neutral level shows up whenever a sharp distinction is made between matters of musical fact and matters of interpretation. This very distinction is made by Dora Hanninen, who writes: "Whether or not a set of notes produces a member of set-class 3-11 [037] is a matter of fact, but whether or not one hears (thinks of, wants to assert) that set of notes as a musical object, and that object as a member of an associative set based on the contextual criterion CSC 3-11 [037], is a matter of interpretation based not on the notes themselves, but on their musical and conceptual context."[38] The status of a series of notes (e.g., E4, C5, and G3) as producing a member of set-class 3-11 is thus a *fact* independent of whether one interprets it *as* a member of set-class 3-11, and thus the concept of a set-class is constituted at the neutral level.

As with assumptions of internal properties and autonomous parameters, a number of problems emerge when we begin to think through the ontological status of these neutral level pitch structures. For example, while it may be a "matter of *fact*" whether or not a group of notes is a member of a particular set-class, in this case, facts are cheap without an account of what *kind*

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of music and that the kinds of evidence that we use in such an analysis matters (this argument is stated explicitly in opposition to Allen Forte, who speaks of the intentional fallacy in favor of his use of pitch-class set theory in the atonal works of Schoenberg). Type-one statements about analysis would therefore approach music at the poietic level.

[37] This is one of several oppositions in approaches to tonality that Hyer (2002, 727) makes note of in his essay on the concept of tonality in western music theory.

[38] Hanninen (2004, 193).

of entity a set-class is and how it relates to experience. Just as the octatonic collection was defined in terms of intrinsic properties (via mod 12 arithmetic) that are incapable of distinguishing between different modalities of experiential phenomena (e.g., between numbers, physical objects, and musical tones) so too is the set-class *and all pitch structures defined at the neutral level* incapable of distinguishing between different experiential modalities.

Additionally, the neutral level has long since lost its credibility in semiotics, even as a "methodological artefact." As Richard Taruskin puts it, "There was also in Molino's original formulation a *niveau neutre* a 'neutral level', that analyzed the structure of the message itself; it has been pretty much discarded once it was realized that analysis itself was an esthesic function."[39] Another way of putting this is that there is no such thing as a neutral description of a physical trace because any *act* of description, especially the cultural phenomena that are the proper concern of semiotics, is always already an interpretive act (esthesic level) made possible by the analyst's cultural-historical relation to the object in question. However, there is an even more basic problem with the description of pitch structure at the neutral level, and that concerns the fact that an object described from no perspective at all (i.e., at the neutral level) is imperceptible because perceptual experience is inherently perspectival.

This problem is wonderfully explored in a simple thought experiment by Merleau-Ponty in his *Phenomenology of Perception*:

> Our perception ends in objects, and the object once constituted, appears as the reason for all the experiences of it which we have had or could have. For example, I see the next-door house from a certain angle, but it would be seen differently from the right bank of the Seine, or from the inside, or again from an aeroplane: the house *itself* is none of these

[39] Taruskin (2004, 11).

> appearances: it is, as Leibniz said, the geometrized projection of these perspectives and of all possible perspectives, that is the perspectiveless position from which all can be derived, the house seen from nowhere. But what do these words mean? Is not to see always to see from somewhere? To say that the house itself is seen from nowhere is surely to say that it is invisible![40]

Just as *defining* the house *itself* in terms of the "perspectiveless position" (i.e., neutral level) from which all perspectives can be derived leads to an imperceptible object, so too are all "objective" accounts of pitch structure defined in terms of no perspective at all impossible to hear.

All these assumptions about what pitch structure is—that it is an intrinsic property, autonomous parameter, and that it is defined independently of the perception and processes of creation that go into producing this structure—have led to a reductive and ontologically opaque account of intervals in post-tonal theory as pure quantities measured in semitones. Such an account is *epiphenomenal*. This is because, to the extent that we agree with Carl Schachter that "in music theory the nonsensical is the unhearable," all three assumptions about pitch structure lead to an unbridgeable chasm between theory and experience. In the next chapter, I attempt to develop a theory of musical intervals (and as a consequence, pitch structure more generally) that begins with their presence, or, how intervals show up for experience. In this account, I argue that, rather than being self-sufficient, autonomous quantities, intervals *for experience* are only ever qualitative aspects of holistic musical situations. Additionally, rather than analyze intervals at the poietic, esthesic, or neutral level, I argue for an account that is dialogical in nature, following the theories of the Russian philosopher and literary theorist, Mikhail Bakhtin.

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[40] Merleau-Ponty ([1945] 2002, 77).

Chapter Three

The Modes of Being of Musical Intervals

> But the system of experience is not arrayed before me as if I were God, it is lived by me from a certain point of view; I am not the spectator, I am involved, and it is my involvement in a point of view which makes possible both the finiteness of my perception and its opening out upon the complete world as a horizon of every perception.[1]

> Don't say: "There *must* be something common, or they would not be called 'games'"—but *look and see* whether there is anything common to all….But if someone wished to say: "There is something common to all these constructions—namely the disjunction of all their common properties"—I should reply: Now you are only playing with words. One might as well say: "Something runs through the whole thread—namely the continuous overlapping of those fibres."[2]

> The world does not show up as presented on a viewing screen; it shows up as the situation in which we find ourselves.[3]

INTRODUCTION: TONE PRESENCE AS AN IMMERSION IN A SITUATION

In the previous chapter, I focused on the assumptions that pertain to treating pitch as an *object* of inquiry, but these assumptions also relate to an implicit assumption about what it means to be an *experience* of this object. The assumption is that *to hear* (whether consciously or unconsciously) the pitch structures of a work is to *predicate properties and relations of a given object* (i.e., a piece of music). Just as a grammatical clause predicates properties or relations of a given subject ("Tamika *is* really smart," or "DeMarcus *foresaw* the outcome"), musical perception consists of the predication of *pre-given* objective properties and relations of a musical object ("C2 *is* the root of the triad," or "Pitch interval 6 in this three-note motive *alters* the analogous form of the motive *by* one semitone"). The treatment of musical listening as

[1] Merleau-Ponty ([1945] 2002, 354).
[2] Wittgenstein (1958, §66-67).
[3] Noë (2012, 3).

predication is clearly present in the important research of David Temperley, who writes, "If we assume that harmony, metrical structure, and the like are real and important factors in musical listening, then listening *must involve extracting this information from the incoming notes*."[4] However, this presupposition about listening is also present any time the question "*Can* you hear *it*?" is asked since the property of "*it*" is presumed to be there independent of the perception; it is just a matter of whether the listener is capable of pointing this property or predicable relation out.

It is not my intention to suggest that there is not any merit or practical utility to this highly intuitive understanding of musical perception. However, since I have already argued that the ontological status of these predicable properties (the "objective givens" existing *prior* to musical experience) is problematic, I want to begin with an alternative conception of musical listening, which is crucial to the account of what it is *to be* a musical interval that follows. Stated succinctly, musical listening is the *immersion in a situation*. Under this view of musical experience, an interval is not a *property* of a given musical object, but an *aspect*, or characteristic of a holistic musical situation. Now, there are a number of terms, including "immersion," "situation," "aspect," and "holism," that require further explanation, but let me begin with a simple example from the philosopher Hubert Dreyfus to help transition into a different conceptualization of musical experience. In this example, Dreyfus describes what he calls "situational characteristics" and how they differ from predicable properties:

> When the hammer I am using fails to work and I cannot immediately get another, I have to deal with it as too heavy, unbalanced, broken, etc. *These characteristics belong to the hammer only as used by me in a specific situation.* Being too heavy is certainly not a property of the hammer, and although the philosophical tradition has a great deal to say

[4] Temperley (2001, 1), emphasis my own.

> about properties and the predicates that denote them, it has nothing to say about such situational characteristics. There are one-place predicates, like heavy, and relational predicates, like heavier than, but no set of fixed logical relations captures situational characteristics like 'too heavy for this job.'[5]

In what follows, I argue that, analogous to the characteristic of "being too heavy for this job," musical intervals are "situational characteristics," and that constitutive of what it is *to be an interval* are all those conditions under which these situational characteristics become intelligible *as such* for experience. These conditions include not only such traditional factors as musical context, motivic functions of tones, and issues of segmentation, but also all those affective, expressive and socio-cultural involvements that are conventionally described as "extramusical."

While the conditions that make musical intervals intelligible are many and diverse, I focus my discussion on three themes: the treatment of intervals as meaning-conferring processes, musical situations and the totality of involvements of musical tone, and the dialogic constitution of intervals in these musical situations. What follows is an exploration of each of these themes.

INTERVALS AS MEANING-CONFERRING PROCESSES

The starting point for my reevaluation of intervals is the simple idea that we move away from a conception of intervals (both melodic and harmonic) as static, or fixed, properties of notes, and view them instead in terms of the meaning-conferring *processes* in which both notes of the interval become mutually intelligible *as* tones for experience. In this definition, it is the process of transformation of a relatively indeterminate *note* into a particular quality of *tone* that is the constitutive feature of intervals, and it is only by virtue of one note *integrating* with

[5] Dreyfus (1991, 77-78), emphasis my own.

another note in a *specific manner* that a note becomes a *tone*. My definition of an interval as the process in which a note becomes a meaningfully interpreted tone through integration owes a significant debt to the many writings of Christopher Hasty on temporal process in post-tonal music. For example, the starting point for my conception of tone is taken from a brief remark in his essay "Composition and Context in Twelve-Note Music of Anton Webern," where he defines a tone as "a pitch which has assumed *specific intervallic qualities* through its combination with other pitches."[6] In this sense, a musical *tone* and the *intervallic* relationship that binds two notes are mutually interdependent, it is simply that a tone and an interval point up different aspects of the same process: the single quality which emerges from the relationship (the tone), and the relationship itself (the interval). This perspective of intervals and its relationship to durational process is elegantly described in his "Rhythm in Post-Tonal Music: Preliminary Questions of Duration and Motion":

> The relationship between the two terms (in this case, interval) gives to each of the terms a particular quality which neither member exhibits as an individual. Since it is only in the union of the two tones that these qualities arise, the durations of both tones cannot be excluded from participating in those qualities. That is to say, we are not presented with a pitch, then for a "durationless instant" an interval and then another pitch. Nor are we given a pitch of no particular intervallic quality which is annihilated when replaced by a pitch which is now granted such a quality-this would amount to being given "half an interval." Instead, if we are able to perceive the two tones as a unit (that is, as a duration) the immediate qualitative change introduced by the second tone must be thought of as

[6] Hasty (1988, 289), emphasis my own. This view of tones as *qualities* that arise through their association with other pitches is also present in his famous essay on segmentation in post-tonal music (1981a, 55) where he begins with the assumption that "the *particular quality* of a pitch, its *meaning as a tone*, is in large measure determined by the intervals it forms with other pitches with which it is associated" (emphasis my own).

> permeating or "spreading through" the two events as a mutual conditioning or relationship, imparting to both tones an order.[7]

There are two important points to take from this passage. First, as already noted, the interval is not an abstract relation existing independently of the two terms of the interval; rather it is the very *change* wrought by the second term in relation to the first. Secondly, the "qualitative change" introduced by the second term is spread throughout the *entire* process of the interval's formation. In short, an interval is the process of transformation of both terms of this interval from indeterminate notes to meaningful qualities of tone. As, we will see, however, it is not simply that there is a *change* that is constitutive of the interval's sonic identity, but *how* the second term brings about this change is that is crucial in determining and interval and tone's sonic identity. The "how" and "what" of this transformation are mutually interdependent.[8]

The idea that an interval be understood as a kind of act, or transformation, rather than a static property, has, of course, been expounded most famously in Lewin's "transformational attitude."[9] However, while Lewin's emphasis on musical understanding as action and performance is deeply inspiring to my work here on tone presence, I place different emphasis on the metaphor of action and gesture than Lewin does in what has been described as the "transformational attitude." While Lewin describes the activity of a transformation as occurring *between* points, or musical objects ("I am *at* s; what characteristic transformation do I perform in order to *arrive at* t?"[10]), the emphasis here is on the process of *qualitative* change *within* the

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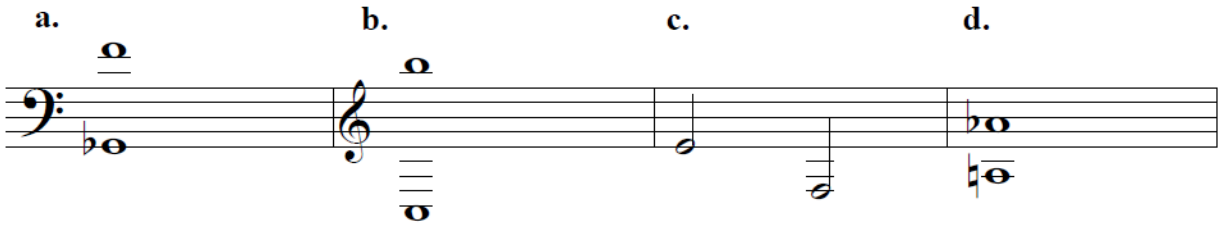
[7] Hasty (1981b, 191).
[8] In addition to Hasty's considerations of the durational processes of tone, this account owes a deep debt to Catherine Costello Hirata's brilliant philosophical, aesthetic and musical considerations of Feldman's idea of the "sounds of the sounds themselves." See Hirata (1996).
[9] Lewin ([1987] 2007, xxxi). See, especially Klumpenhouwer (2006) for a discussion of the intellectual and philosophical underpinnings of this "transformational attitude." For two distinct critical reactions to whether or not Lewin's formal approach lives up to the "transformational attitude," see Hook (2007) and Kozak (2015).
[10] Lewin ([1987] 2007, xxxi).

notes and tones. This is not to say that the approach offered here is not compatible with transformation theory, it is simply that there is different emphasis placed on the processes of transformation embodied in musical intervals.

To help illustrate this approach to musical intervals, and to anticipate the situated nature of the qualitative transformations that occur in these interval processes, it will be helpful to contrast the more traditional understanding of musical intervals and perceptual experience described earlier (i.e., as the predication of properties) with the approach advocated here by comparing a number of musical passages that appear to highlight the "same" interval from the perspective of intervals as predicable properties, but are significantly different when treated as characteristics of the situations they participate in. The point of the comparison is to show that *how* one note integrates with another plays a constitutive role in the production of meaningful tones, and to introduce finer distinctions in the question of what it is *to be* a musical interval.

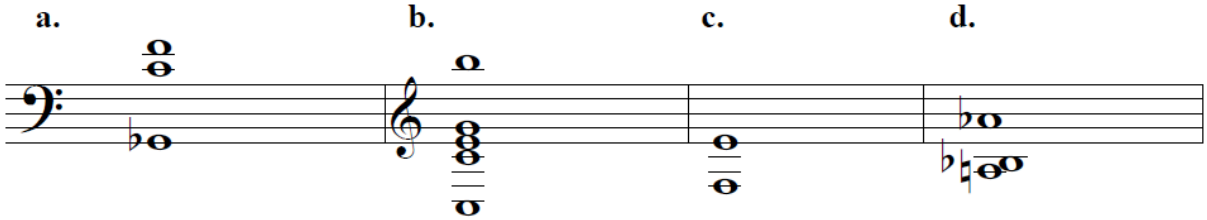
The interval in question is "registrally ordered interval" (henceforth ro-interval) 11 (or, the major 7th).[11] Given the traditional assumptions about pitch described above (i.e., that it is an autonomous parameter whose relations are defined in terms of intrinsic properties "objectively given" independent of anyone's subjective experience of this interval), as well as the tendency to treat the more abstract ear-training exercises in the "Western" aural skills classroom as the basic mode of musical listening, the intervals shown in Example 3.1 are seen as simple "instantiations" or "realizations" of the *same* abstract *property*, which I call for convenience, ro-interval 11. The idea that an interval is an abstract property that either is or is not instantiated in a musical

[11] The concept of a registrally ordered interval is taken from Vaisala (1999, 232), which, in turn is equivalent to FB ("figured bass") intervals in Morris (1995, 217). Registrally ordered intervals are pitch-class intervals that are always taken from lowest note to highest note regardless if, in a melodic interval, the lower note comes after the higher note (as in Example 3c).



Example 3.1. "Instances" of Registrally Ordered (RO) Interval 11

passage is clearly visible in those theoretical accounts of chords in post-tonal music as simple *aggregations*, or collections, of intervals between all of the notes in the chord. In this view of chords, placing ro-interval 11 in the context of radically different chordal configurations makes no difference to this interval's sonic identity.[12] For example, the sonic identity of the four "instances" of ro-interval 11 in Example 3.2 remains the same in each case even though the chords these intervals participate in vary considerably (e.g., set-class (016) in Example 3.2a and

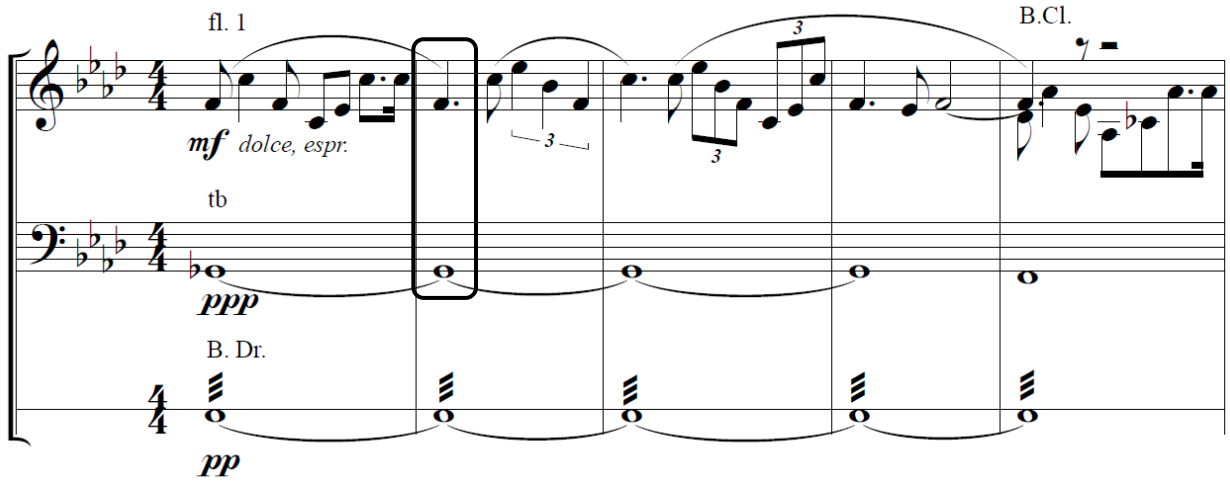


Example 3.2. Different Chordal Contexts for ro-interval 11

[12] For an example of this conception of a chord's sonic identity, see Straus (2014) who offers a wonderfully vivid description of chords in the context of developing an account of total voice-leading: "Among the intervals formed between two sets in any particular context, some will be more marked for attention than others, but all are at least potentially in play. The less marked ones create a nimbus within which the more marked ones are heard. Taken together, they create a total sonic package in which all intervals play a role. It is the same as in hearing the sonic identity of a single chord—one may be more aware of some intervals than others, but it is the total package of intervals that characterizes the chord." In this description, awareness of intervallic relations may vary, but these intervals are somehow *there* independent of *how* the two notes of the intervals relate to one another within the chord (e.g., do they reach across timbral boundaries, is one of the notes of the chord a kind of atonal appoggiatura, does the note "resist" integration to a note in the bass as is constitutive of those polytonal situations described by Kaminsky [2004], etc.). As such, an interval is an absolute feature independent of the context (or, situation) in which the interval occurs. As the reader may have guessed from my description of intervals as "situational characteristics," I take a different view of intervals.

the major seventh chord in 3.2b vary considerably under any metric of similarity, but the surrounding notes do not change the abstract property of ro-interval 11 that is present in these chords). This abstract, context-free property is then taken as the basic form through which all intervals are experienced (through perceptual predication) in music. However, to paraphrase the advice of Wittgenstein on "games" in the epigraph to this chapter, "Don't say: 'There *must* be something common, or they would not be called registrally ordered interval 11—but *look and see* whether there is anything common to all; or, in our case "listen and hear" whether there is something common to all.

Consider, for example, the interval in m. 2 between the flute and tuba from the introduction of Barber's *Second Essay for Orchestra* (Example 3.3). To begin, recall that in actual experience, *notes*[13] are always *holistic* (i.e., not divisible into component parts). That is to



Example 3.3. Barber, *Second Essay* for Orchestra, measures 1-5

[13] Here, the concept of note is more appropriate than pitch since the latter is often conceived as an abstract autonomous parameter, whereas the term "note" lends itself better to the experienced gestalts I am dealing with in this chapter.

say, musical notes always participate in a number of different musical roles and functions simultaneously (e.g., a motivic function, a rhythmic function, expressive functions, as well as timbral associations, dynamics, and so on), and the specificity of these individual functions and roles is made intelligible by its participation in a *holistic situation* to which they refer as figure to ground.[14] This is the case for the interval in m. 2; it is a quality of the holistic situation it participates in. The *quality* of the note in the flute is a product of its role as the concluding note of an opening motive implying some kind of modal tonic on account of its articulation of a i-v-i progression in F. This modal implication then *clashes* with the *introductory pedal function* of the tuba; a "clash," which is made all the more visceral because of the tonal, formal, and expressive significations that may be attributed to such an introductory pedal point (for example, think of the monumental scope and cultural associations of the primordial suggested by the tonic pedal at the beginning of Bruckner's Ninth). The situation in which the interval in m. 2 occurs is, thus, one of alienation, and thus the meaning that is conferred by the tuba to the flute (and vice versa) is not that of a simple distance between two intervals but the *quality* of a modal tonic (from the perspective of the flute) *estranged* (until further notice[15]) *from the tonal-harmonic environment implicated by the introductory pedal function of the tuba*. Importantly, how the melodic, formal, and expressive function of the flute's note *integrates* with the tonal implications of the tuba (i.e., "clashing") is constitutive of the intervallic quality formed by these two notes. And this quality is

[14] Among the many accounts of the holism of experience, Mark Johnson's account of Dewey provides a nice summary (2007, 72-73): "Dewey emphasizes that pervasive qualities are not properties of objects. Instead, entire situations are characterized by pervasive qualities, and we pick out particular qualities for discrimination within this unified situational whole."

[15] I say, "until further notice," because, with greater prominence of the flute melody, the G♭ in the tuba can certainly be heard as integrating into the modal environment of the flute, in which case, the tone in the tuba is interpreted as a chromatic interpolation (♭$\hat{2}$). On the other hand, if the tuba is heard as the harmonic foundation of this passage, one could hear this passage in G♭ Lydian (my thanks to Philip Lambert for reminding me of this possibility). While this reading is certainly possible, the expressive function (estrangement), timbral differentiation, and rhythmic emphasis on F and C in the flute, I prefer the interpretation offered here.

no more a property of the "tones themselves" than "being too heavy for this job" is a property of the hammer in Dreyfus's example quoted earlier. Rather, *the interval is an emergent characteristic of the whole situation in which the interval occurs*.

One result of treating intervals as *aspects* of *situations* is that for every change in the formal, rhythmic, and expressive situations in which notes participate, there is a *difference* in interval quality and therefore a *different* interval. As an example, compare the situation in Example 3.3 with a very different situation in the last section of "Saturn: Bringer of Old Age" from Holst's *The Planets* (Example 3.4). The musical interval in question, C-B, is highlighted in the musical reduction of Example 3.4b. Now, if I were describing this interval in an aural skills setting, I *could* describe this interval as simply the major seventh of a tonic, CM7 chord; however, since I am interrogating the question of what it is to be an interval, it is important to locate the presence of this interval in the situation that it occurs.

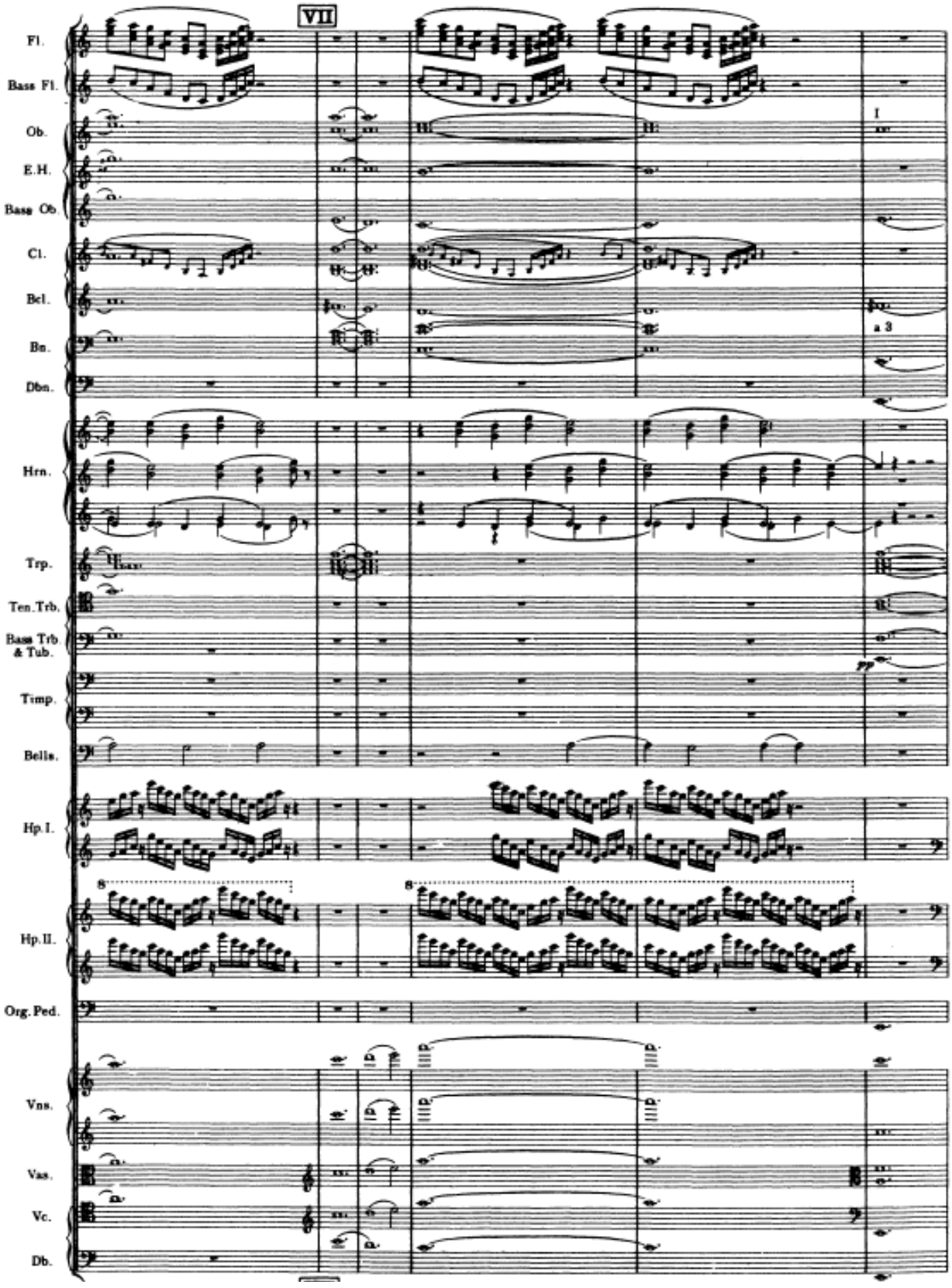
In expressive terms, this passage brings to conclusion a formal section characterized by both a sense of broad expanse and calm stillness befitting the title of piece. This effect is suggested in part by the very slow harmonic motion and absence of clear metrical anchoring in the accompaniment. This latter feature is characterized by the great contrast between melody and accompanying ostinato figures that cross-cut the notated meter as well as the grouping dissonance between the several ostinato figures themselves. The texture of the accompaniment from Rehearsal V to the end thus projects a sense of musical atmosphere rather than progressive development. Against the calm stillness of the accompaniment, a very slow and gradual registral expansion takes place in the melodic voices beginning with the statement of the main theme at Rehearsal VI. The interval in Example 3.4b acts as a culmination of this process. Over the course of this registral expansion, there are four statements of the seven-measure theme, with the first

two ending on G (seven measures after Rehearsal VI and four before Rehearsal VII, respectively [not shown in Example 3.4]), third statement on A (third measure of Rehearsal VII), and the last on B, the major seventh of the tonic triad. The crucial moments that have a determinative influence on the interval C-B are shown in Example 3.4c and 3.4d.

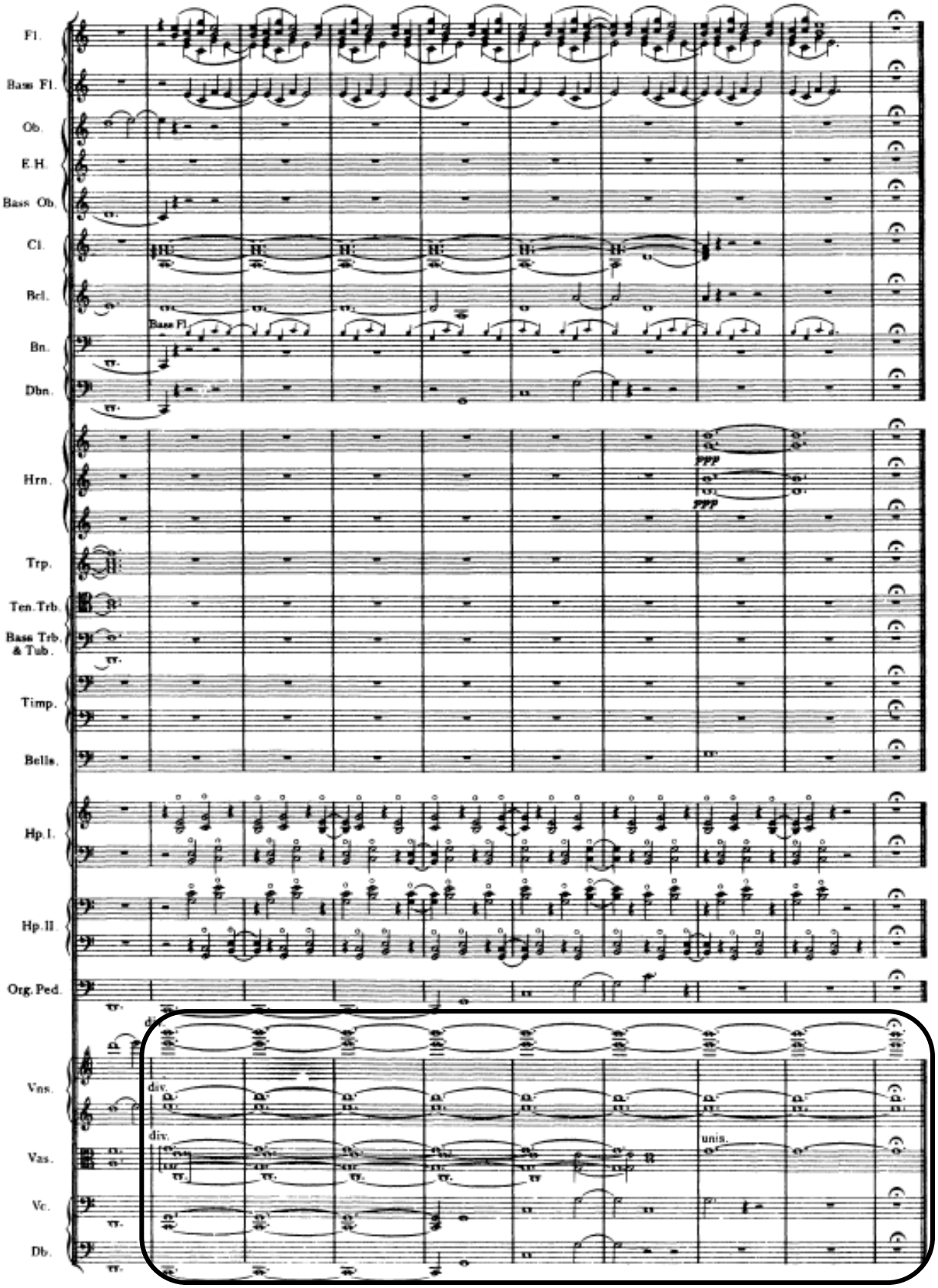
Example 3.4c shows the initial cadential figure to which our major seventh, C-B (Example 3.4d) is a response. I describe Example 3.4d as *responding* to Example 3.4c, as opposed to forming a motivic association, because it is not the bare similarity of the two passages that is a relevant factor in shaping the sonic identity of the interval, but the way in which the motive is transformed. This motivic transformation is part of the situation that characterizes the interval.

The cadential figure in Example 3.4c represents a moment of suspense in the texture as the chords played by the trumpets, clarinets, and bassoons abruptly cut off the undulating ostinato figures in the flutes, horns, and harps. The sonority in the first measure of Example 3.4c suggests a plagal cadence in the key of C; however, the upper and lower strings participate in a voice exchange between scale degrees $\hat{3}$ and $\hat{1}$, which suggests a simple tonic-dominant-tonic progression. Still, however one defines this progression, the upper strings engage in a rhythmic displacement of the voice-exchange that leads into a kind of deceptive cadence with the arrival of A in the third measure of this example, at which point the undulating texture in the flutes, horns, and harps return. With the return of this figure shown in Example 3.4d, the cadential nature of this figure is made more emphatic with the addition of the organ, bassoons, and tuba, and the outward registral expansion of the lower voice of the voice-exchange two octaves lower. Importantly, the upper line of the voice-exchange leads into a *confirmation* of tonic function

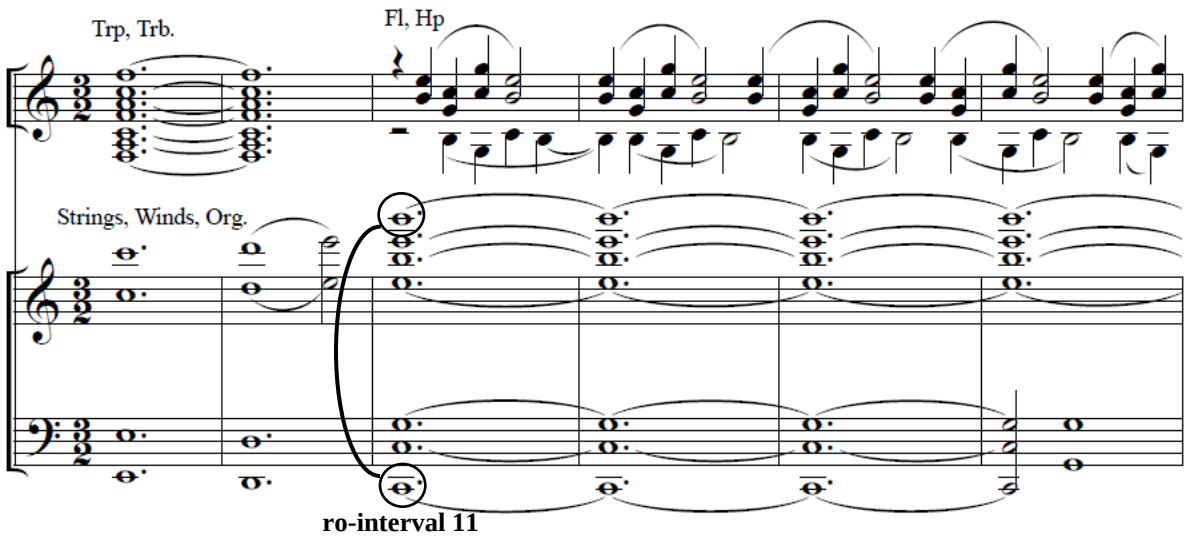
made clear by the fact that when the undulating ostinato figures return in the flutes, horns, and harps, these figures abandon the use of $\hat{6}$ as they did before and instead outline members of the



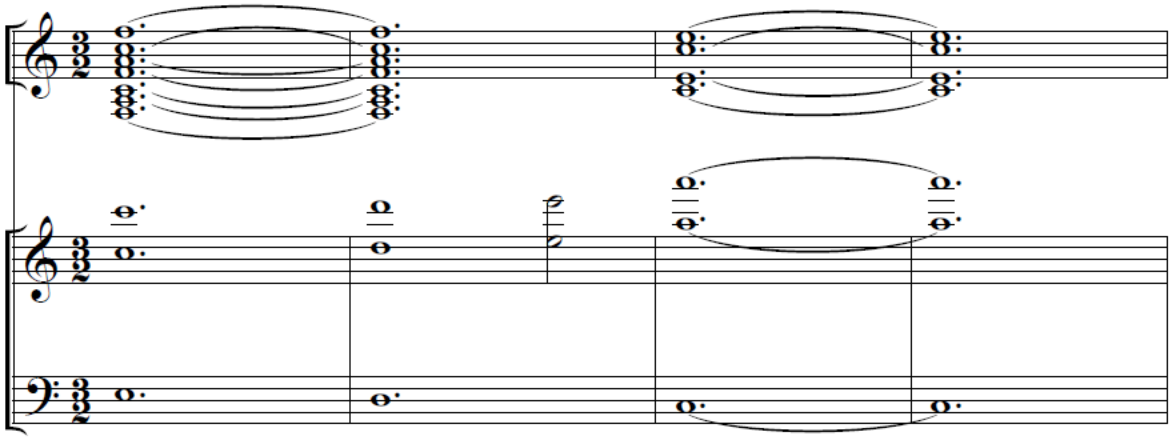
Example 3.4a. Holst, *The Planets*, "Saturn: The Bringer of Old Age," Rehearsal VII



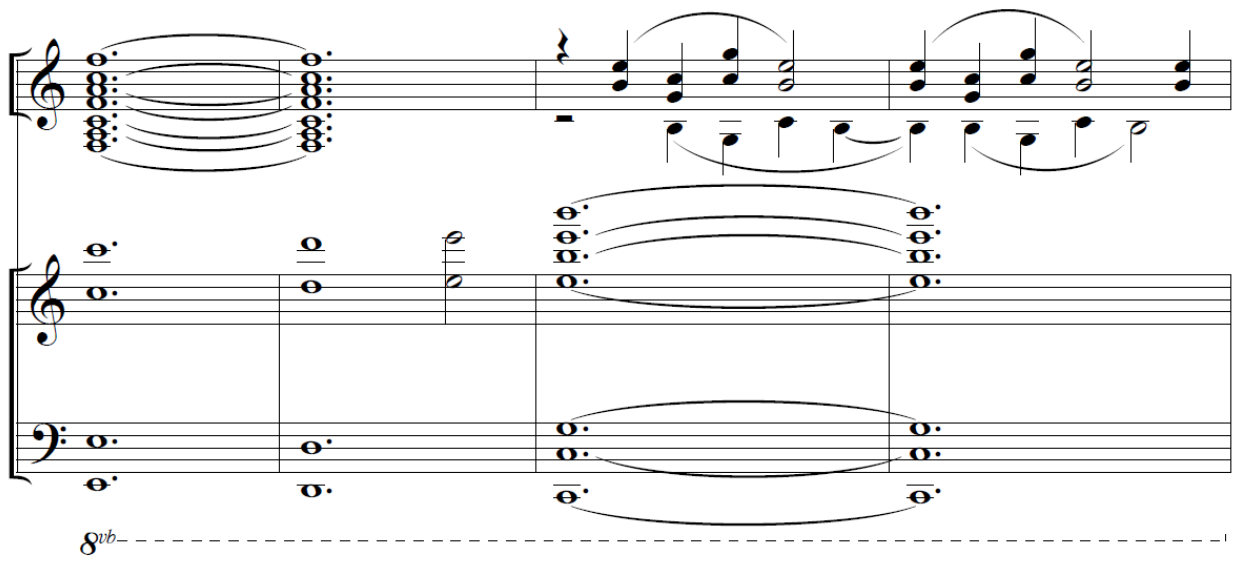
Example 3.4a. Continued



Example 3.4b. Reduction of passage containing “ro-interval 11” (5 after Rehearsal VII)



Example 3.4c. Deceptive Cadence (Rehearsal VII)



Example 3.4d. Confirmation of Cadence (5 after Rehearsal VII)

CM7 chord. Thus, the *note* B (conceived as a pitch-class) *becomes* the *tone* "culminating major seventh of a cadential tonic function" through its integration with C as a characteristic of the holistic situation in which a "suspended" deceptive cadence (by virtue of its contrast with calm stillness of the material that surrounds this figure) is transformed into the confirmation of a process of registral expansion that began at Rehearsal VI.

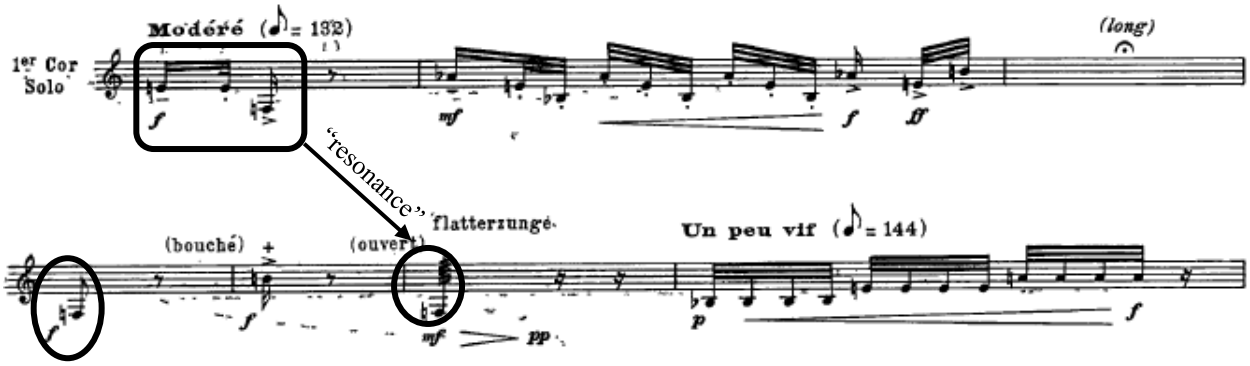
In fact, describing the meaning-conferring process of this interval *as* a "major seventh of the cadential tonic function" is somewhat deceptive, and points up a general problem with using more familiar *categorical* terminology to describe these interval processes. One of the primary issues is that it is not clear what a "major seventh above the tonic triad" *is* since it conflates many possible understandings of our category: Is the seventh an unresolved neighbor tone as we expect from the voice-leading practices of western classical music? Is it a constitutive member of a chord as it would be in jazz (i.e., a CM7 chord)? Or, is this interval in some kind of liminal space between these options? All these possibilities depend on how we conceive of the intertextual role

of genre in shaping our experience of the sonic identity of intervals, which is a point I will return to later.[16] With respect to the interval in Example 3.4b, given my interpretation of the role of B as both bringing the registral expansion to a culmination, as well as responding to the deceptive harmonic motion in Example 3.4c, I hear the B as fully integrating as a harmonic (as opposed to a nonharmonic) tone. And yet the experience of the sounding presence of this interval cannot be free of ideologies about what is and is not a harmonic element and how intervals *should* behave with respect to these categorizations (i.e., harmonic vs. non-harmonic). Given these pressures, the constitution of this interval might be framed as a liminal quality *between* harmonic tone requiring no further resolution and non-harmonic tone requiring upward resolution to a consonance. A full description of our already cumbersome label for this interval would thus be "liminally harmonic, yet culminating major seventh of a cadential tonic function."

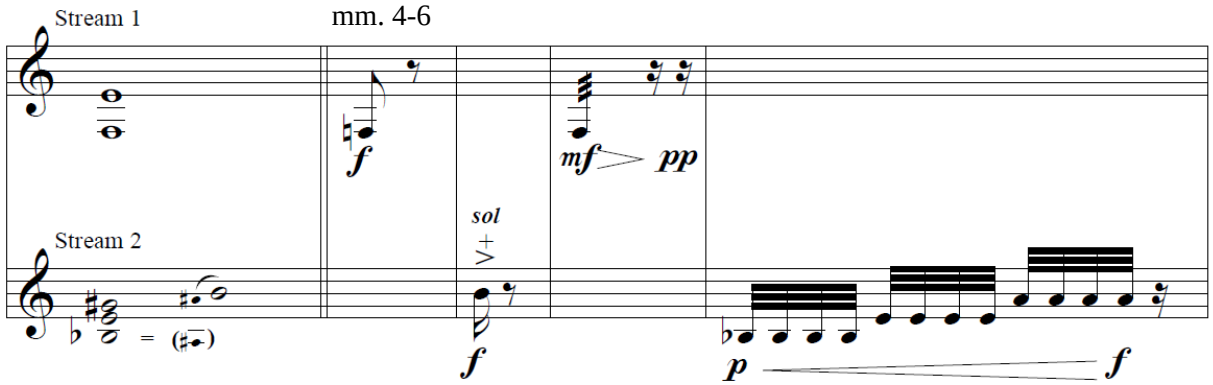
As is hopefully becoming clear, treating intervals as meaning-conferring processes characteristic of the situations they participate in leads to the conclusion that, as in Wittgenstein's "games," the examples of ro-interval 11 may criss-cross and overlap without reducing to a single essence. One final example will help to emphasize this point in a relatively more atonal context and demonstrate the interdependent relationship between intervals and tones. Example 3.5a shows the opening of "Appel interstellaire" from Messiaen's *Des canyons aux étoiles*. More than the previous examples, the interval *quality* in question is much harder to represent visually. Specifically, I am interested in the *resonance* of the opening *interval quality* of measure 1 in the F3 of m. 6 performed "flatterzunge" (the score sounds as notated). Placing the dactylic ro-interval 11 upfront in the movement at a *forte* dynamic and separating this interval by silence allows this interval to resonate through the music that follows in measure 2.

[16] For discussions of the intertextual role of genre in the interpretation of musical signs, see Klein (2005, 59-61). For a discussion of the status and function of genre in interpreting twentieth-century music, see Drott (2013).

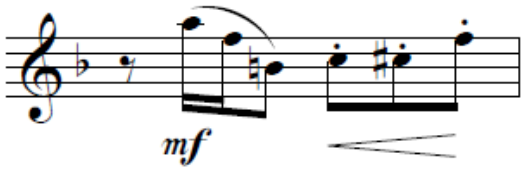
This, in addition to the enormous crescendo to B4 followed by silence in measure 2, leads to the sense that the figures in measures 1 and 2 operate in two auditory streams. This is visually represented in Example 3.5b. In both streams, the last note, or, "residue," of each respective stream is juxtaposed in mm. 4-6. But it is not the residue of uninterpreted *notes* that is stated in these



Example 3.5a. Messiaen, *Des Canyons aux étoiles*, 6. "Appel Interstellaire," mm. 1-7



Example 3.5b. Two auditory streams suggested in "Appel Interstellaire"



Example 3.5c. Analogous Motive from Strauss's, *Till Eulenspiegels lustige Streiche*, m. 46 (sounds as notated)

measures, but meaningfully interpreted *tones* (i.e., notes with intervallic, expressive, dynamic functions performed in the larger situation they help constitute). Specifically, in stream 1 there is a sense of an almost "pure" presence of a *non*-functional major seventh. I emphasize the prefix *non*- here, as I understand/interpret the large, downward leap as in dialogue with a potential chordal arpeggiation of a Major-7th chord archetype (as opposed to displaced resolution) whose harmonic function is emptied of content. This non-functional major seventh plays a role of negation in relation to the B4 that follows since this note retains the status as $\hat{5}$ in E Major conferred on this tone by the *Till Eulenspiegels*-like arpeggio figure in m. 2. (As shown in Example 3.5b, the B♭ in m. 2 is enharmonic to A♯, and, thus, acts as a $\sharp\hat{4}$ with displaced resolution to $\hat{5}$ [for the analogous figure from Straus's tone poem, see Example 3.5b]). In this sense, the intervallic presence in mm. 4-6 is that of negation because the individual reverberations of each stream create a qualitative distance between the pure, *non*-harmonic major seventh of the F3s in m. 4 and 6 and the resolved-$\hat{5}$ in m. 5. And note that this is a *positive* negation in the sense that the *resistance* of the *note* F3 to integrate with B4 *as* a tritone is created by the separation of streams in mm. 1-2 rather than the formation of segmental boundaries established by the eighth-note rests in mm. 4-5. In other words, the F3 and B4 in m. 4 and 5, respectively function as resonating bodies for the tone qualities of m. 1 and 2, and, as such, the resonance that occurs in m. 4 and 5 spreads across the boundaries of the rests overlaps, but does

not integrate into a tritone interval. Thus, if we were to give a verbal description of the intervallic quality conferred on the tone in m. 6, it might be something like the following: “actively resistant *non*-functional *resonance* of opening *non*-functional major seventh.”

In summary, treating intervals as meaning-conferring processes that are characteristics of the musical situations they participate in leads to a definition of intervals that, instead of abstracting away from interval quality in the aims of generality, *multiplies the particularity of interval experience indefinitely*. Furthermore, as my three examples, with their somewhat awkward verbal descriptions were meant to suggest, these situational characteristics do not reduce to a quantitative distance. Instead, musical intervals contain, as an irreducible dimension of their sonic identity, aspects of expressive behavior, motivic function, broader cultural associations, and much more. And, just as in Wittgenstein’s family resemblances, the categories of musical tone that intervals represent do not reduce to a single essence.

If musical situations help constitute the sonic identity of intervals in all of their qualitative valence as the previous examples attempted to illustrate, it is necessary to take a step back and examine the content of musical situations in greater detail. The reason is that, up to this point, my descriptions of musical situations may appear to be playing the same role sometimes given to musical “contexts” (i.e., the music surrounding an interval): that is, to help choose *between* alternative designations of a pre-given intervallic category. But, the relationship between situations and intervals that I am arguing for is a much more *constitutive* one. Furthermore, these situations have a direct bearing on the conditions of the possibility that I described earlier as constituting what it is *to be* an interval. Understanding this relationship in depth will also illustrate even further the difference between treating intervals as *aspects*, or characteristics, of situations as opposed to predicable *properties*. In what follows, I compare

situations and musical contexts in relation to the "involvement in a point of view" functioning as the "horizon" of the experience of musical intervals.

MUSICAL SITUATIONS AND THE "TOTALITY OF INVOLVEMENTS" OF INTERVALS

I begin my consideration of musical situations with a general definition by the cognitive psychologists Wenchi Yeh and Lawrence Barsalou. For these authors, a situation is "a region of perceived space that surrounds a focal entity over some temporal duration, *perceived from the subjective perspective of an agent.* The region of space may include a variety of entities and events, and the agent's subjective perspective may include a variety of mental states."[17] Now, compare this definition with Lewin's description of contexts (CXT) in his formal p-model (perception model) as the music that surrounds a perceptual "event" (EV) as well as "a culturally conditioned theoretical component that makes us responsive to categories we call beats, keys, tonics, dominants, et al."[18] It is the musical context that allows one to go beyond hearing a sonic event in an isolated context as simply a "minor chord" to hearing this event *in* a larger context *as*, for example, participating in a "deceptive cadence." In other words, different musical contexts lead to different perceptions, or, statements of the "same" event considered in isolation.[19]

Clearly, there is significant overlap in Yeh and Barsalou's definition of situations and Lewin's definition of context in his p-model; both situations and contexts have the sense of the (literal and metaphorical) spatial region and temporal duration *surrounding* some focal entity (e.g., an interval) that is the object of experience. And, in fact, the words "situation" and

[17] Yeh and Barsalou (2006, 352-353), emphasis my own.
[18] Lewin (1986, 335).
[19] Ibid., 337.

"context" are often used as synonyms in everyday discourse.[20] As such, I do not want to overemphasize the semantic difference between these two terms. However, there is one significant difference between Yeh and Barsalou's "situations" and Lewin's "contexts" that I want to bring to the fore; that is, the role of one's *subjective perspective* in the constitution of situations. In other words, while situations involve contexts as part of their definition, these situations are not simply purely formal relations (e.g., the two chords *before* the minor chord) and background knowledge about how these formal relations are usually constructed, but are instead constituted by the ways in which a subject becomes *involved* with the entity constituted in experience (i.e., the "variety of mental states" described in the above quotation). However, whereas Yeh and Barsalou describe the mental states involved in one's subjective perspective as helping to constitute the relevant region of space and temporal duration *independent* of the entity that it surrounds, I want to suggest that the subjective perspective—what I am calling the "totality of involvements" following Hubert Dreyfus's reading of Heidegger's philosophy of being—that helps define musical situations are constitutive of what it is to be a musical interval. In order to illustrate how the "totality of involvements" at the core of musical situations is constitutive of what it is to be an interval, I first turn to Heidegger's classic example of the ready-to-hand hammer and briefly apply this analysis of the totality of involvements to a comparative analysis of *how* the totality of involvements is constitutive of what it is *to be* the minor seventh of a "Blues seventh chord" in comparison to that of the minor seventh of a cadential dominant in European classical music. These examples serve to illustrate a more general understanding of the situated modes of being of musical intervals.

[20] In fact, Lewin occasionally refers to the musical context of a perception as a musical situation.

The starting point for my discussion is the quotation from Merleau-Ponty's *Phenomenology of Perception* found in the first epigraph of this chapter: "But the system of experience is not arrayed before me as if I were God, it is lived by me from a certain point of view; I am not the spectator, I am involved, and it is my *involvement in a point of view* which *makes possible* both the finiteness of my perception and its opening out upon the complete world as a *horizon of every perception*." The crucial notions in this passage are the "involvement in a point of view" and the means by which these involvements "*make possible*" our various perceptual experiences. To help clarify these notions I turn now to the classic example of what it is *to be* a hammer in use from early Heidegger as interpreted by the philosophers Hubert Dreyfus, Sean Kelly and Mark Okrent.[21]

For Heidegger, there is a direct relation between our "concerned involvement" *with* the world, our embodied identities, and our understanding/interpretation[22] *of* the tools and objects in the world. As Sean Kelly summarizes it, the notion of identity appears in Heidegger as a way of "laying out" our experiences of the world in terms of a "totality of involvements" consisting of the "in-order-to," "toward-which," and "for-the-sake-of-which." In order to get a grip on these Heideggerian notions, let's look at the classic example of *experiencing* (i.e., understanding/interpreting) something *as* a hammer. In this example, we understand "thing X" *as* a hammer when using it *in order to* pound nails into wood *towards* building a house *for the sake of* providing shelter.[23] Note the following about this example. First, when we are *involved* with

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[21] See Dreyfus (1991), Kelly (1998, 31-66), and Okrent (2007).

[22] Throughout the rest of this chapter I often combine the words "understand" and "interpret" as "understand/interpret" in order to emphasize the fact that from the hermeneutic lens of the "totality of involvements" to have *understanding* is to already be involved in the act of concerned interpretation. As such, despite traditional distinctions between the two, understanding and interpretation are mutually interdependent. Even when I use the abbreviated forms "understand" and "interpret" to save space, what I really mean is "understand/interpret."

[23] Dreyfus (1991, 92) provides a nice summary and alternative example of these relations: "Hammers make sense by referring to nails, etc. But how does the activity of hammering make sense? Equipment makes sense only in the context of other equipment; our use of equipment makes sense because our activity has a point. Thus, besides the

thing X *as* a hammer, a hammer is not a self-sufficient entity, but a specific *role* that only takes on this meaning in relation to a whole network of other equipment such as nails, wood, etc. Without this *implicit* understanding of the network of relations among equipment (hammers, nails, wood, etc.), it is impossible to understand thing X *as* a hammer. Furthermore, this network of equipment itself only makes sense in the context of the ends *towards which* this network is put; that is, the only reason we use hammers to bang nails to connect pieces of wood is *toward* building a house. And the idea of building a house only makes sense in the context of our need/desire to provide shelter (i.e., the "for-the-sake-of-which").[24] In this sense, the relation between the "in-order-to," "toward-which," and "for-the-sake-of-which" are mutually interdependent. If we extricate one of these relations, you no longer have a totality of involvements with objects and entities in the world.

In short, then, the relationship between the in-order-to, toward-which, and for-the-sake-of-which constitutes the totality of involvements, or identity, that makes it *possible* to understand/interpret something *as* a hammer. This totality of involvements is therefore the *conditions of the possibility* for understanding/interpreting our various experiences of being in the world and thus is constitutive of what it is to be a hammer. Now, just as the totality of involvements serves as the condition of the possibility for understanding/interpreting something *as* a hammer, I argue it also serves as the condition of the possibility of

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'in-order-to' that assigns equipment to an equipmental whole…the use of equipment exhibits a 'where-in' (or practical context), a 'with-which' (or item of equipment), a "towards-which" (or goal), and a 'for-the-sake-of-which' (or final point). To take a specific example: I write on the blackboard *in* a classroom, *with* a piece of chalk, *in order to* draw a chart, as a step *toward* explaining Heidegger, *for the sake of* my being a good teacher."

[24] Importantly, this "for-the-sake-of-which" should not be seen as some kind of final goal. As Dreyfus writes (1991, 95, emphasis my own): "Heidegger's [sic] uses the term 'for-the-sake-of-which' to call attention to the way human activity makes long-term sense, thus avoiding any intimation of a final goal. A 'for-the-sake-of-which,' like *being* a father or *being* a professor, is not to be thought of as a goal I have in mind and can achieve. Indeed, it is not a goal at all, but rather *a self-interpretation that informs and orders all my activities*." This understanding of the "for-the-sake-of-which" helps avoid essentializing any of the identities (professor, father, etc.) that order the activities constituting that identity.

understanding/interpreting all musical features, but especially intervals. To illustrate this point, I turn now to a simple comparative account of what it is to be a seventh of a Blues seventh chord constituted dialogically versus a seventh of a dominant seventh chord in Western Classical music.

While the totality of involvements with musical intervals is not exactly analogous to the involved understanding of hammers, especially with respect to the relationship among equipment (the "in-order-to"), the totality of involvements of intervals still acts as the background upon which intervals become intelligible as such. Consider the following examples of two different ways of being involved with the seventh of a Major-minor seventh chord. The first is what I describe as a dialogical understanding of the blues seventh chord: "we can say that we understand/interpret "interval X" ***as*** the seventh of a blues harmony in experience ***in order to*** confer a *contra*functional quality to the note's chordal 7^{th} (e.g., it is a *flat*-7^{th} *instead* of the leading tone, and calls forth an *upward, instead of downward,* resolution) ***towards*** highlighting the oppositional expressive behavior of Blues tonality with respect to European common-practice ***for the sake of*** reinforcing the counter-hegemonic values associated with Signifyin(g) in the African-American experience."[25] This example is necessarily simplified (e.g., I do not describe the totality of involvements of the Blues tonal system(s) described in the "toward-which" of the interval), since the totality of involvements of any dimension of musical experience (including intervals) is dependent on other musical dimensions that they bear a necessary relation to (i.e., the equipmental relations), and these dimensions will have their own totality of involvements. Highlighted here, however, is the dialogic understanding of how tones

[25] For an account of dialogism, see Bakhtin (1981), which I discuss below. For the concept of Signifyin(g), see Gates (1988).

should *behave* in terms of a musical "language" *outside* itself.[26] It is this sense of how tones (ought to) *behave* with respect to one another by virtue of one's particular identity (e.g., a jazz musician, rock musician, etc.) that is analogous to Heidegger's description of the uses, equipmental relations, point of use (toward-which), and larger self-identity organizing these relations "for-the-sake-of-which") that makes our understanding of specific intervals possible.

Once again, one consequence of this perspective is that for every change in the totality of involvements of a musical situation, there occurs a different interval. To illustrate this point, compare the previous example to one potential set of involvements that makes the seventh of a V^7 intelligible as such for experience: "We understand/interpret interval X *as* the seventh of a dominant seventh chord when a note integrates with the chordal root *in order to* anticipate the (conceptual metaphor of) downward resolution to the tonic agent ($\hat{3}$) *towards* prolonging the tonic triad whose identity it depends on *for the sake of* reinforcing the ideology of 'time's arrow' as the 'natural' basis of formal function and harmonic progression in Western musical modernity."[27] Just as in the totality of involvements of the "blues seventh," this account is clearly simplified since it does explain the structure of desire behind the ideology of "time's arrow," nor does it explain the totality of involvements of tonic agents themselves, and only

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[26] Of course, one can frame the totality of involvements of so-called Blues tonality in non-oppositional and less dialogical terms as Kubik (1999) does in his important study on how different African musical practices have shaped the development of the Blues. Doing so simply leads to a different set of involvements, which, in turn leads to a different understanding/interpretation in experience (thus a *different interval*). This is important, because, just as there is no single intervallic process instantiated by the integration of F♯ to C, there is no single "Blues" seventh.

[27] The ideological "for-the-sake-of-which" offered here presupposes a dynamic understanding of form and harmony (as opposed to a static, schematic one) wrapped up in broader cultural understandings of temporal experience. Within such a framework, the question of the modes of being of musical form and harmony are mutually interdependent. As such, what it is *to be* tonic harmony, is defined in part, by the fact that it signifies a "beginning" formal function, and what it is *to be* a "beginning" formal function—such as the presentation of a sentence, or, the antecedent of a period—is defined by the fact that one of the most important signifiers of beginnings in this period is tonic prolongation. This understanding of the relation of form and harmony in terms of their temporal function is discussed in the beginning-middle-end paradigms of Agawu (2009, 51-61) and the related understanding of formal functions in Caplin (1998) and (2010). For an in-depth account of the importance of a teleological understanding of temporal experience ("time's arrow") in the emergence of western musical modernity, see Berger (2007).

embodies one *possible* set of involvements that is influenced by Schenkerian understandings of the relationship between harmony and voice-leading. Other, less Schenker-influenced ways of being involved with tones are obviously possible. However, according to the understanding of intervals elaborated in the first section, these different sets of involvements (e.g., treating the seventh chord as one of two "fundamental chords") lead to *different* intervals because they entail a different set of background knowledge. What is important here is that such mundane "properties" of intervals, such as "anticipated resolution" and the relations between notes (analogous to the equipmental relations between hammers and nails of the *in-order-to* of "hammers") such as the *integration* of the seventh to the chordal root *as* seventh, are *not* inherent features of this interval (there are no inherent features of intervals as was discussed in conjunction with Example 2.2), but rather *characteristics* of the *in-order-to* and *toward-which* relation of the "seventh of a dominant seventh chord in Western Classical music" (as opposed to the "seventh of a Blues harmony") that are *"ordered to"*[28] this interval's sounding presence by virtue of the "for-the-sake-which" (the ideological identity) that organizes this interval's sonic identity.

Before concluding this section, there is one final point that is crucial to understanding *how* the totality of involvements act as the condition of intelligibility of musical intervals in experience; that is, the relations making up the totality of involvements (the in-order-to, toward-which, etc.) only serve their role of making possible our experiences of musical intervals when they function *tacitly* as the *background* to the experience of the intervallic *figure* that we are consciously aware of. This is so, because, just as in the visual case of the figure-ground relation, as soon as we begin to focus or reflect on one or more of the relations of the totality of

[28] See the quote in footnote 23 that describes the "for-the-sake-of-which" as "ordering" all of the activities that constitute the activity of using "chalk."

involvements, it no longer functions as background, and instead becomes the *figure* of our experience (at the same time, the musical signifier now functions as *background*). For example, this happens when, in listening to a Blues seventh, we reflect on the linguistic representation of the "for-the-sake-of-which" of this interval. In this case, the interval acts as the background, and the identity involved in the associated blues tonal system ("for-the-sake-of-which") is the figure.

As an illustration of this analogy, consider the following example of the figure-ground relation in visual perception (Figure 3.1). In this analogy, supposing we perceive the two white faces looking at one another as the *figure*, the two white faces would be the experienced interval (e.g., the dialogic Blues Seventh chord) and the black background would be the totality of involvements (i.e., the "in-order-to," "towards-which," and "for-the-sake-of-which" of the blues seventh) making the experience of this interval intelligible as such. And, just as in the visual case, where you cannot have a figure without a ground (or a ground without a figure), so too, can

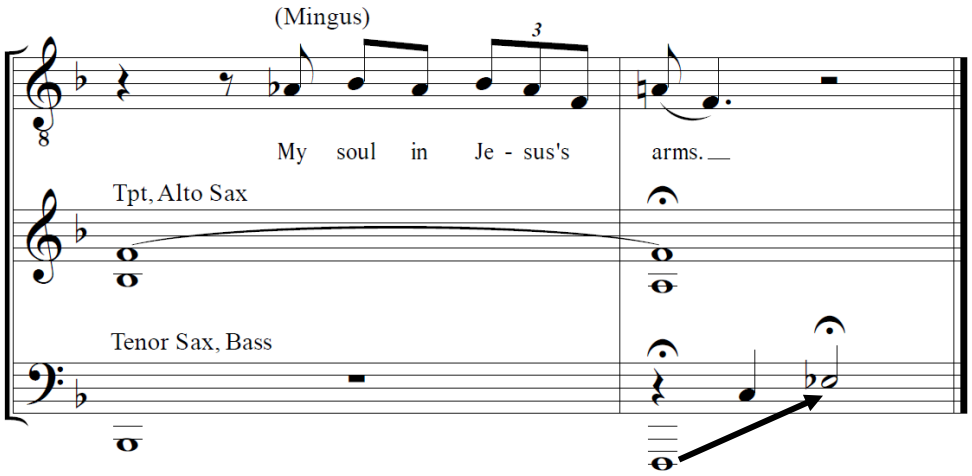
Figure 3.1. Example of Figure-Ground Relation in Visual Perception

you not have a signifier without a totality of involvements functioning as a tacit background. This is related to Merleau-Ponty's statement that one's involvement in a point of view serves as the horizon of every perception. This figure-ground relation will become especially important in my discussion of the relation between musical expression and tone presence in Chapter 5.

The final point I want to make about the figure-ground relation between the totality of involvements and an experienced interval is that the way it functions in musical situations is different in one important respect from the way in which we normally think of how contexts function in experience. That is, while contexts help decide *between alternative* intervallic categories *already* constituted, the totality of involvements of musical situations *organizes* the ongoing flow of musical experience *in terms* of the in-order-to, toward-which, and for-the-sake-of-which, and as such, constitutes what it is to be an interval *in the process* of this interval's becoming. This difference between contexts and situations helps explain why a focus on the role of context in musical perception leads to treating intervals as *predicable* properties, whereas focusing on situations leads to an understanding of intervals as *aspects* of holistic situations (i.e., figure to ground). That is, contexts have a status *independent* of the interval categories they help decide between, while situations are a constitutive factor in the intervals they help determine.

To help illustrate this difference, consider the last chord in Charles Mingus's Quintet performance of "Better Get Hit in Your Soul" on the recording *Mingus at Antibes*, ca. 10:54 (a transcription is provided in Example 3.6). The interval in question is the last interval formed between the tenor saxophone and bass. Included in the broader *context* of this passage is knowledge that this is a performance by a *jazz* ensemble with all its syntactic and stylistic expectations associated with the genre, especially the fact that the voice-leading implications of

classical music (e.g., the downward resolution of the seventh) do *not*, dialogically speaking, apply here. Additionally, the more local *context* includes such factors as the fact that the seventh



Example 3.6. Transcription of Mingus, "Better Git Hit in Your Soul," *Mingus at Antibes*, ca. 10:54

is introduced in the tenor saxophone after the arrival of tonic harmony in a plagal cadence (after the word "arms" as sung by Charles Mingus). However, this context only *constrains* our hearing of this passage by ruling out interpretations. It does *not*, however, say what it is *to be* this interval. In other words, similar to the cognitive constraints implied in the questions of whether you *can* hear it, musical contexts are important in determining what is likely *not* heard in the musical situation rather than what is heard (or, understood/interpreted *as such*). For example, it is absolutely in the realm of possibility that someone not well versed in the stylistic implications of Mingus's gospel-inflected jazz performance might hear the seventh in the tenor saxophone as *implicating* a secondary dominant that is unrealized. As such, context is clearly necessary, but not sufficient in determining what it is to be an interval for experience since it only *negatively*

rules out pre-given possibilities of interpretive judgments. It is the totality of involvements with a particular musical situation that provides the *positive* conditions of intelligibility crucial to intervallic experience in music.

Taking stock of the characterization of the modes of being of intervals developed so far, a very different understanding arises from the traditional approach to pitch structure discussed in Chapter 2. Rather than treating intervals as intrinsic properties whose definition does not rely on concepts "outside" of the pitch-structures themselves—and therefore remain the same regardless of the situation in which they occur—I have argued that what it is *to be* an interval is a direct result of the holistic situations they help to characterize. And since the totality of involvements of situations organize *how* notes relate to one another with respect to their motivic function, rhythmic behavior, formal function, expressive character, and so forth *as a whole*, intervals have no meaning independent of the situational whole. Furthermore, because the relations of the "in-order-to," "toward-which," and "for-the-sake-which" of musical situations are mutually interdependent, an interval is never a self-sufficient entity and therefore musical tones and the intervallic relations that give tones meaning are defined in *non*-autonomous terms. Finally, since the totality of *involvements* function as the condition of intelligibility of musical intervals, a "neutral level" description of musical intervals (and pitch structure more generally) is a contradiction in terms since it is one's *subjective involvement* with a situation which makes the experience of these intervals intelligible as such in the first place. Musical intervals are thus always *only* an *aspect* of a holistic musical situation in which the interval is the *figure* against the *tacit* background of involvements with this situation. One result of this understanding of the modes of being of musical intervals is that rather than emphasizing the generality of interval quality (e.g., ro-interval 6), I focus on their particularity.

One problem with the picture of intervals I have developed so far is that it seems to suggest that the totality of involvements organizing musical situations is engaged from the perspective of an autonomous subject outside of culture and history who creates her or his own meaning from scratch. However, as the Russian literary theorist and linguistic philosopher Mikhail Bakhtin recognized with respect to words and utterances in general, "The speaker is not the Biblical Adam, dealing only with virgin and still unnamed objects, giving them names for the first time."[29] Similarly no listener or performer-composer designates the situated presence of tone out of nothing, but rather the understanding/interpretation of intervals, and musical tone more generally is *always* a "responsive understanding." That is, musical intervals are always already dialogical. In the next section, I explore how this dialogism of musical tone plays a constitutive role in the sonic identity of musical intervals.

DIALOGISM OF MUSICAL INTERVALS

In the last several decades, the uses of Bakhtin's concept of dialogism in music studies has grown to encompass an impressive breadth of scholarship dealing with such diverse issues as musical form, intertextuality in music, musical representations of race, musical borrowing and studies of specific composers such as Shostakovich.[30] In many of these applications of dialogism to musical analysis, dialogism is treated as a heightened aesthetic and optional extra to a more basic monological understanding of musical language and interpretation. Or, if dialogism is not treated as an optional feature of musical language and interpretation, the dialogical relation itself

[29] Bakhtin (1986, 93).

[30] See, for example, Hepokoski and Darcy (2006) on form, Korsyn (1999) on dialogism and intertextuality, Tomlinson (1991) on the relation between "Signifyin(g)" and racial representations in fusion, Berry (2006) on musical borrowing, Kuhn (2010) on the String Quartets of Shostakovich, and Monson (1996, 97-137) on allusion and quotation in jazz performance. Of course, this is just a small sampling of the uses of dialogism, and related Bakhtinian concepts such as "double-voiced discourse" in music scholarship.

is often treated as one between some kind of "abnormal," or, "deformed" *token* of an abstract *type*, whose "deviation" from the "type" calls for expressive interpretation.[31] While such understandings of dialogism in music are not without their significant merits, the understanding of dialogism that I adopt here is framed in the context of the totality of involvements of musical situations and is read through the lens of certain African-American and post-colonial concepts and debates associated with theories of hegemony, identity, and culture (e.g., "double-consciousness," "Signifyin(g)," interstitial spaces, liminality, and cultural hybridity).[32] In such approaches, dialogism is not an optional feature of language and culture, but a constitutive facet of *all* languages and cultures. That is, what it is *to be*, for example, a musical utterance (or, language in general) is its *responsive* understanding of "other" utterances (or, languages) about the "same" object. In this sense, dialogism is a condition of intelligibility of musical understanding more generally and thus adds another dimension to the conditions of intelligibility of musical intervals. Additionally, rather than focus on dialogism at the level of the individual (inter-)text as is common in many applications of Bakhtinian dialogism, I focus on three aspects of Bakhtin's thought that examine language and discourse more generally: the "alien environment" in which words (and musical tones) take on meaning, the contextual overtones always present *in* words (and musical tones), and the *responsive understanding* of verbal and musical meaning. In the account that follows, I offer an interpretation of each theme of linguistic dialogism as a *constitutive dimension* of verbal utterances and musical intervals (understood as

[31] At times, this seems to be the case for Sonata theory (Hepokoski and Darcy [2006]); however, the framing of Sonata theory in terms of genre theory, and as a kind of Kantian "regulative principle" that treats form as a condition of possibility of interpreting the progress of musical events as such in Appendix 1 (605-606) suggests a much more sophisticated approach to musical understanding that is in line with the approach developed in this chapter.
[32] See, for example, DuBois ([1903] 2007), Gates (1988), Spivak (1988) and Bhabha (1994).

"meaning conferring processes") and not the product of a relation between a "deviant" token of a more "normal," monological type.

A crucial starting point for Bakhtin's theorizing of language and literature is a focus on the concrete utterance (i.e., language in *use*) rather than the sentence, which is treated as an abstract unit of grammar *independent* of its use. In giving primacy to the utterance in his theoretical work on language, Bakhtin offers a critique of what he believes to be unrealistic accounts of language that give undo emphasis to *langue* (language as an abstract system) rather than *parole* (speech). As he writes, "To ignore the nature of the utterance or to fail to consider the peculiarities of generic subcategories of speech in any area of linguistic study leads to perfunctoriness and excessive abstractness, distorts the historicity of research, and weakens the link between language and life. After all, language enters life through concrete utterances (which manifest language) and life enters language through concrete utterances as well."[33] The "life" described here includes all those uses—ideological, polemical, re-affirming, legalistic, etc.—toward which language is put, and the tasks accomplished through and with language. To ignore such tasks and aims, and treat language as a system of empty formal categories, or to treat it merely as a system of reference, is to miss out on the very substance of language. Additionally, a focus on language as an abstract system (*langue*) misses out on the most important feature that delimits a use of language *as* an utterance; whether an utterance is just one word, a sentence, or an entire discourse, what delimits, and therefore defines an utterance as a unit is the "changing of a speaking subject."[34] It is this definition that leads to the dialogic conception of language and three important themes of verbal (and musical) dialogism that I want to emphasize here: the alien environments in which words live, the contextual overtones that are present *within* a word, and

[33] Bakhtin (1986, 63).
[34] Ibid., 71.

the responsive understanding that makes meaning possible. In what follows, I briefly outline the basic elements of these themes and offer an analogous interpretation in the presence of musical intervals.

By defining the utterance in terms of the changing of a speaking subject, Bakhtin places emphasis on the "other" to whom the utterance is addressed, and, in fact makes this "addressivity" a constitutive feature of the utterance. More generally, this definition leads to the conclusion that the monologic word or utterance—the word whose meaning is defined internally—is a contradiction, since what delimits the boundary of a word or utterance is the *others*' utterance that this word is *addressing*. And this is because, as Bakhtin notes, "it is not, after all, out of a dictionary that the speaker gets his words," but from other people's mouths, and always with a social-ideological accent and specific goal or agenda in mind.[35] In short, "The word in language is half someone else's."[36] This idea takes on many different forms in Bakhtin's thought, but one excellent illustration of this point is in Bakhtin's account of the alien environment of "other's" words in his famous essay "Discourse in the Novel."

Bakhtin's account of the alien environment of others' words takes into consideration the simple fact that, as in our example of ordered pitch interval 6 (Example 2.2), there is no single way that a word relates to its object (e.g., an object may be a "folding chair," a "large metal object," or a "weapon in WWE wrestling"). However, he goes further to note that, given this situation, the word of a speaking subject lives its life in an environment populated with other *different* words about this "same" object. These words enter relationships (dialogues) that are at times conflicting, at others, affirmative, or even expansive of one's understanding the relationship between word and object. Hence, responding to what he considers a traditional

[35] Bakhtin (1981, 294).
[36] Ibid., 293.

monological understanding of words in stylistics, Bakhtin writes, "But no living word relates to its object in a *singular* way: between the word and its object, between the word and the speaking subject, there exists *an elastic environment of other, alien words about the same object, the same theme,* and this is an environment that it is often difficult to penetrate. It is precisely in the process of living interaction with this specific environment that the word may be *individualized and given stylistic shape.*"[37]

Crucial here is the idea that the process of "individualization"—the process by which a word comes to form a concept of its object—occurs through the *interaction* with alien words about the same object and theme. And, again, this interaction may be one of contestation or reaffirmation of an object's presumed, "essential" identity, or an expansion or delimitation of the conceptual field within which an object is made intelligible. In either case, it is the elastic environment of other, alien words that nurtures the word's development as an individual, concrete meaning. Bakhtin's choice to describe word meaning as a *process* of "individualization" is thus very apt since this individualization process presupposes the backdrop of linguistic (as well as, socio-ideological) multiplicity *against* which this word becomes an individual. In this sense, the alien environment of words (which is one component of the broader concept of dialogism) can be considered as a condition of the possibility of verbal meaning in general. Linguistic (and musical) multiplicity is thus prior to and the condition of the possibility of verbal (and musical) univocity.

Although somewhat counterintuitive at first, the idea that word meaning is formed in an alien environment of other words and themes can be seen at work in a wide range of familiar contexts. Consider the words (and concept) "black aesthetics" in the United States context.

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[37] Bakhtin (1981, 276), emphasis my own.

Clearly, with critiques of essentialism over the last several decades, the word has become a site of a kind of post-structuralist free-play of signifiers where common associations with African-American cultural formations (e.g., "hot rhythms," call-and-response textures, "heterogeneous sound ideal") are shown to be either indistinguishable *by means of musical features* from other cultural formations (e.g., European, or *non*-African, derived folk traditions), or to have irreducibly mixed origins whose roots cannot be located.[38] Already, we see the dialogic process at work since a core part of the anti-essentialist understanding is clearly organized by the conceptual field of reference (i.e., the "elastic environment" of *black aesthetics*) that determines whether a signifier is, or is *not* an example of this conceptual field.[39] An example of this dialogic organization of anti-essentialist understandings of "black aesthetics" is the attempt to show how what are considered "distinctly black" musical features have their basis in European musical practices, even though the choice to decide what is and is not a European signifier is just as arbitrary. In either case, the anti-essentialist viewpoint is individualized by its negative response to the conceptual field of "essentialized" black aesthetic discourse.

But this is just one voice involved in the dialogic processes of the individuation of "black aesthetics."[40] Other voices include those engaged in a dialogue with a post-soul aesthetic—that post-Civil Rights movement generation of African-American artists who "trouble" conceptions of "blackness" left by the legacy of more Black Nationalist movements such as the Black Arts

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[38] A work, which, despite his claims to the contrary, is often unfairly critiqued as exhibiting essentialist undertones, is Floyd, Jr. (1995). Seminal examples of the kind of "free-play" I describe here is Radano (2003) and Tomlinson (1991). For a trenchant critique of Tomlinson's and other similar work, see Ramsey, Jr. (2001).

[39] See, for example, Martin (2008).

[40] I should mention that I would not consider those African-American scholars who use some aspect of theories of African survivals, or retentions, as the "essentialist" counterpart of the anti-essentialist voice because the concept of "black music" that is individualized in such instances is not *necessarily* in dialogue with "anti-essentialist" arguments about black music. In fact, as problematic as his legacy is, even Herskovits constructed his concepts of black culture, in part, *against* a Eurocentric view of African Americans as passive agents "without history" (see Herskovits 1941). For a recent examination of the ideologies, motivations, and problematics involved with the idea of black music's African origins, see Garcia (2017).

Movement (BAM).[41] While the dialogic understanding of the post-soul aesthetic may appear to resemble the anti-essentialist voice on a superficial level, besides the makeup of the post-soul voices (primarily African-American artists and academics), the primary difference is that while the anti-essentialist voice attempts to *explode* conceptual boundaries of "black aesthetics" altogether, the post-soul generation's "troubling" of blackness, as Bertram Ashe describes it, is aimed at contesting stereotypes through the *expansion* of the conceptual field of black aesthetics by means of contesting limited understandings of this field. In both voices, however, the processes of individuation are made possible by working through the viewpoints of alien words and themes about the *same* permeable object. And what holds for my analysis of "black aesthetics," could equally be done for such familiar words as "communism," "aesthetics," as well as much more mundane words such as "cup," "chair," and broader musical ones such as "tonality."

At this point, a musical example of the processes of individuation in an elastic environment of alien words and themes is in order. Consider the tone quality "*flat-*$\hat{7}$" that usually serves as an index of modality (e.g., Dorian, Mixolydian, etc.). The *flat* quality of this tone is especially interesting here since a common (and legitimate) critique of the description of this tone *as* "flat-$\hat{7}$" is that it presupposes the seventh degree of the major diatonic scale as the "normative," unmarked form of this scale degree to which its modal counterpart deviates. Given this point, it may appear more appropriate to describe this tone as, for example, "$\hat{7}$ of Mixolydian." Here, however, I want to argue that we take the inhabitation of the "alien" Major $\hat{7}$ *in* "flat-$\hat{7}$" (and vice versa) seriously as a constitutive dimension of this tone's sonic identity. There are many reasons to prefer the *dialogic* constitution of this tone's quality. For one,

[41] For a succinct introduction to the post-soul aesthetic, see Ashe (2007). For a more in-depth study, see Neal (2002).

collection inference and tonicization are neither necessary nor sufficient for describing what it is *to be* a scale degree quality for experience.[42] For another, the dialogic constitution of tone works *both ways*. As such, the major diatonic $\hat{7}$ is also dialogically constituted by a range of alien voices and contextual factors, and examining the dialogic constitution of flat-$\hat{7}$ helps clarify the sonic relations between musical systems and, in general, what it is *to be* a scale degree. As such, let me turn briefly to a description of this scale degree quality's dialogic individuation.

First, it is important to recall that a scale degree is a relational quality of tone—e.g., $\hat{7}$ of the major diatonic scale is the *leading tone* with respect to the tonic, the agent of dominant function, and a semitone away from the tonic. It is also important to remember that all these characteristic relationships represent *different* intervals because the "sameness" of these intervals cannot be located in the stimulus (which varies indefinitely) and each characteristic relationship (e.g., leading tones and dominant agents) relies on a different set of background knowledge—the "totality of involvements." Thus, what it is *to be* scale degree $\hat{7}$ in the major diatonic scale for experience is a matter of how we think this tone *ought to behave* in specific musical situations as *organized* by our involvements (the "in-order-to," "toward-which," and "for-the-sake-of-which") with this situation. For example, we understand/interpret a tone *as* $\hat{7}$ *in order to* embody a *potential* to "resolve" by semitone to $\hat{1}$ *toward* expressing hierarchical distinctions within melodic motion *for the sake of* reinforcing the ideology of teleological desire as the normative

[42] This is a complex topic, but let me simply note here that collection inference and tonicization are not necessary because not all notes of a collection need be present in a musical segment to identify notes as belonging to that collection (e.g., mm. 1-2 of "La Grive des Bois" from Messiaen's *Des canyons aux étoiles*). More importantly, collection inference is not *sufficient* because, as mentioned earlier, there is no single *correct* representation of musical tone, and as such, collections in and of themselves are incapable of distinguishing between different modes of being of tone—e.g., whether the E-flat of Example 8 is part of an F Mixolydian, B-flat Major collection, a Blues tonal system, the *mixture* of major and Mixolydian systems, or perhaps a reference to the "atonal" set-class (026). As I argued in the previous section, what distinguishes these different modes of being of intervallic relationships and tones are the ways that one's involvement with musical situations organizes the relationships between tones.

basis of melodic integration of notes in Western music. As in the example of the "seventh of V^7 chords," this account of the totality of involvements of $\hat{7}$ is greatly simplified since "$\hat{1}$," "hierarchical distinctions," and "teleological desire" each contains its own totality of involvements that relate, but do not reduce to the totality of involvements of $\hat{7}$. What is important here is that these involvements are *normative*; that is, what it is to be $\hat{7}$ is a matter of how this tone *ought to* behave in a musical situation in terms of one's various identities (i.e., "for-the-sake-of-which") that help organize these situations as figure to ground. Furthermore, this "ought to" is understood in terms of the recognition of alternative possibilities. This recognition of alternative possibilities (i.e., the space of the "ought to") is analogous to the "elastic environment" of alien words (or, alien tones) described by Bakhtin. For example, there is no *necessary* connection between the *distance* of one semitone between $\hat{7}$ and $\hat{1}$ and the *potential* teleological desire for resolution, which is a constitutive feature of the sonic identity of scale degree $\hat{7}$ in the major mode. In this sense, one potential sonic identity of a modally oriented *flat-*$\hat{7}$ scale degree (e.g., seventh degree of Mixolydian) is as a dialogically oriented *contrarian response* to the idea that the leading tone character of seventh scale degree, with its implications of "desiring" resolution, is *by definition*, a single semitone; a negative response that indexes its modal difference for experience, and thus a totality of involvements that *responds* to the ideological framing of melodic motion presupposed by the "for-the-sake-of-which" of scale degree $\hat{7}$ in the major mode. And, in turn, the ideological framing of major scale degree $\hat{7}$ as necessarily desiring completion as a primary index of "the" tonal system in Western classical music is dialogically individualized by the simultaneous recognition and suppression of alternatives represented by *flat-*$\hat{7}$.

There is clearly much more that could be said about this subject, especially given a post-colonial reading of "modal" representations of European folk music, South Asian classical and popular music and other repertoires in the nineteenth and twentieth centuries, but this would take us far beyond the scope of this chapter. What I want to suggest here is that the *process* of individualization of the totality of involvements of $\hat{7}$ in the major mode (its conditions of intelligibility), especially with the rise of neo-modal thinking in the nineteenth century, is bound up in part with its response to alien understandings of the possibility of alternative cadential motions other than by semitone in *alternative musical systems*. And this dialogical individualization relates to other equally arbitrary individualizations such as "Western music," whose meanings cannot be determined without the imagined other of *non*-western music. With this in mind, I turn to the other dimensions of Bakhtinian dialogism relevant to this study, the contextual overtones that are always present in musical utterances (e.g., musical intervals), and the responsive basis of musical understanding.

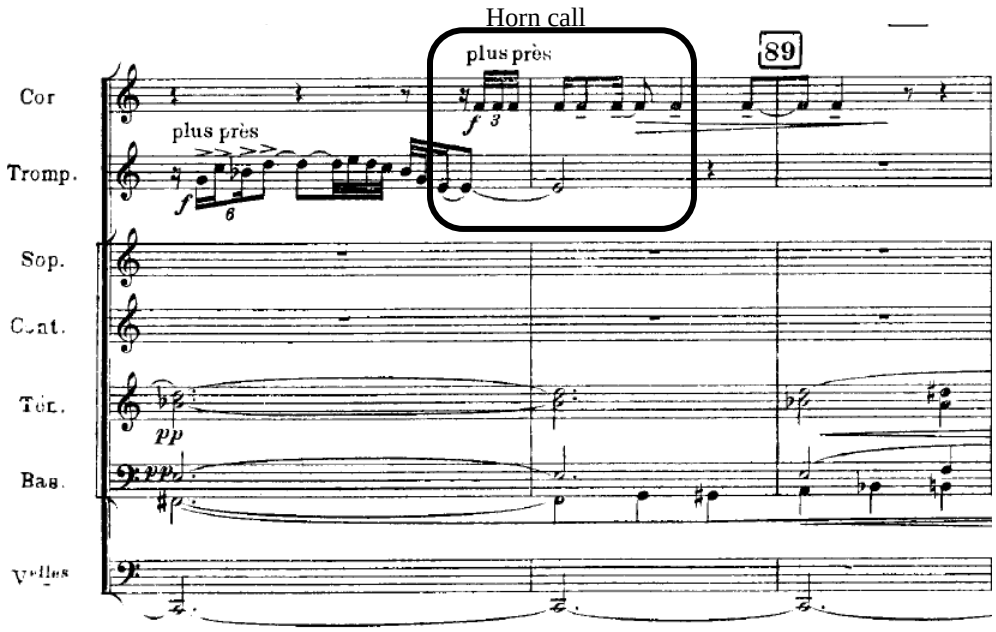
If musical tones are only ever *aspects* of the involved situations they participate in, and if the totality of involvements that organize these situational characteristics is *individualized* within a dialogical setting of alien voices about the "same" intervallic relation (e.g., the space of the "ought to" for scale degree $\hat{7}$), then it is only natural that the other aspects of the holistic situation of tones (e.g., motivic function, durational processes, expressive function, etc.) play a role in the dialogic process of intervals as well. This role of the other in shaping aspects of the situations that musical intervals take part in is analogous to Bakhtin's point that "contextual overtones (generic, tendentious, individualistic) are inevitable in the word."[43] The reason that these contextual overtones are inevitable in musical utterances has to do with the point made

[43] Bakhtin (1981, 293).

earlier that the word is "half someone else's." What follows from this fact is that, as Bakhtin notes, "Prior to this moment of appropriation, the word does not exist in a neutral and impersonal language (it is not, after all, out of a dictionary that the speaker gets his words!), but rather it exists in other people's mouths, in other people's contexts, serving other people's intentions: it is from there that one must take the word, and make it one's own."[44] Given that musical utterances, including intervals (*as* situational characteristics), are also learned from the strings, bells, percussion heads, mouths and pens of *other* performers and composers, the contextual overtones that accompany these musical utterances of the other, including the "intentions they serve" also shape the individualization of the sonic identities of intervals. In other words, we hear a particular intervallic relation doing more work than is traditionally represented by the intrinsic properties of the "tones themselves." They embody an associated musical topic, a characteristic expression, a motivic function that is embedded *in* the tone's sonic identity, and these contextual overtones play a crucial role in the meaning-conferring processes that form musical intervals.

In fact, these contextual overtones, although not always addressed explicitly, are pervasive in our experience of musical intervals, especially in twentieth-century music. A simple example is from the introduction to the Second Part of Ravel's ballet *Daphnis et Chloé* (see Example 3.7). The situation I want to call attention to is the formation of an intervallic integration between the horn and trumpet in the context of horn's invocation of the hunting horn topic.[45] Briefly, a little bit of context will help situate this musical topic's impact on the sonic identity of this interval. The first "horn call" is stated in the trumpet at Rehearsal 88 (not shown),

[44] Ibid., 293-294.
[45] For an in-depth historical discussion of the signifiers of the "Hunting horn" topic, see Monelle (2006, 35-58).



Example 3.7. Ravel, *Daphnis et Chloé*, Introduction to Part 2, two before Rehearsal 89

then in the horn two measures before Rehearsal 89.[46] After the choir fades to the textural background on a chord whose chief "voice-leading" concerns (as opposed to harmonic function) create a *rupture* in the E minor/G Major tonality implicated by the choir from Rehearsal 87 to 88, the horn and trumpet calls are foregrounded for the first time at Rehearsal 88 (not shown in Example 3.7) without a strong tonal or harmonic implication. However, with the entrance of the pedal on C2 in the Cellos, the trumpet call embodies a functionally ambiguous Dominant Ninth chord that ends on the third of the chord (E4). Here's where the topical association of the horn figure (its "contextual overtones") makes a difference in the process of integration with the trumpet's E4, and thus its formation *as* an interval. Given that the signifier of this figure—a simple triplet figure on a single tone off in the distance (the horn is placed backstage)—points to

[46] In the ballet, the scene onstage is completely dark with the choir singing off in the distance. This section is transitional between the low point of Part 1, which ends with Daphnis in despair over Chloe's capture by pirates, and the general chaos represented by the activity of the pirate camp that begins at Rehearsal 92. The trumpet and horn calls shown in Example 9 alert the audience to a gradual emergence of the activity of the pirate camp.

the "mythical" (as opposed to literal[47]) Hunting Horn topic, the particular tone quality of this figure suggests scale degree $\hat{1}$ or $\hat{5}$. The reason is that the long history of use of this topic in classical music on scale degree $\hat{1}$ or $\hat{5}$—especially given the limitation of the original brass instruments associated with the hunt to notes of the overtone series—has led to these scale degree qualities becoming an entrenched, if not necessary, part of how this topic's signifier is assumed to behave. Given the contextual overtones of the horn's B♭3, the horn enacts a kind of resistance to integrating *as* seventh of the dominant ninth sonority, and instead exists in some kind of liminal space between chordal seventh and major $\hat{1}$; a position which heightens the sense of unease at this point in the piece. Thus, the contextual overtones of this B♭3—the assumed scale degree behavior of the Hunting Horn's musical signifier—mediates the process of integration of notes in the becoming of tones (here, the integration with the trumpet's E4), and thus plays a decisive role in the sonic identity of musical intervals.

In my example of how the contextual overtones of musical utterances shape the sonic identity of intervals in specific musical situations, I may have given the impression that the dialogic understanding of musical intervals is a *passive* one, since I assumed a hearing in which one consents to the "normal" scale degree associations of the Hunting Horn's musical signifier. For Bakhtin, however, a *passive* understanding of utterances is a contradiction: "A passive understanding of linguistic meaning is no understanding at all, it is only the abstract aspect of meaning."[48] Instead, understanding is inherently *responsive*. This goes back to the delimitation

[47] The signified of the hunting horn is not the actual activity of hunting, but more often than not, the (problematic) associations of manliness, heroism, and analogies of the hunt with scenes of battle. This is clearly the case in this scene from *Daphnis et Chloé*. As Monelle (Ibid., 64-65) writes, "the signification of the hunt topic had to do with a myth of hunting that transcended contemporary [eighteenth-century] practice; people thought about the hunt in a way that was scarcely reflected when they went out to hunt."

[48] Bakhtin (1981, 281)

of the utterance in terms of the changing of speaking subjects. Within this framework an utterance (and recall that a single word can be an utterance) is always already an active response to alien understandings about the object of which the word forms a concept. Without this active understanding, the word would not be individualized *as a word* within the elastic environment described above. However, the idea of a *responsive* understanding of words and utterances goes beyond this process of individualization since, as Bakhtin notes, "every word is directed toward an answer and cannot escape the profound influence of the answering word that it anticipates."[49]

The understanding of words and utterances is thus *actively* responsive in two senses, both of which refer to the "elastic environment" of alien words and voices in which words and utterances come into being. First, the word actively responds affirmatively or negatively to different viewpoints about the meaning of the object of this utterance—a word cannot form a concept of its object without this affirmation or negation since no object of words has inherent meaning. Second, in taking a stance on how this object *should* be conceptualized (i.e., providing a meaning for the word), speakers anticipate possible responses to this stance, and *structure* their understanding accordingly.

For example, consider Messiaen's response to a question about the extent to which his music is tonal: "I'm going to startle you: I feel that the terms 'tonal,' 'modal,' 'serial,' and other words of this ilk are misleading and that their use constitutes an illusion; these are phenomena that have probably never existed. They've been exploited in books because lovely theories could be established with pretty synoptic tables—but these are unimportant things that composers have ultimately taken little notice of."[50] Clearly Messiaen is responding negatively to preconceived notions of the scope of the words "tonal," "modal," "serial," including a possible

[49] Ibid., 280.
[50] Messiaen (1994, 49).

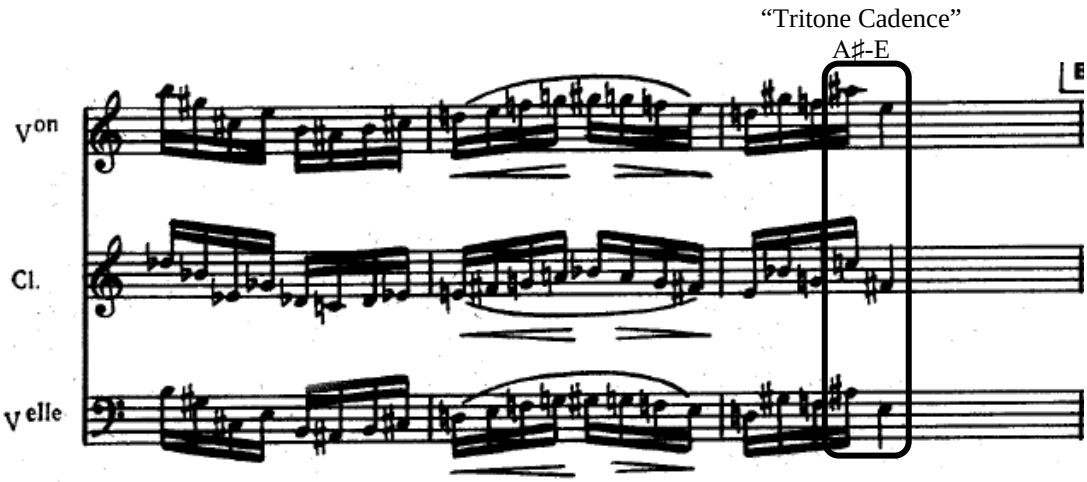
misunderstanding of how musical tone should be construed in his own music. Furthermore, he is anticipating the response to his intentionally shocking remark that their use constitutes an "illusion." As such, one possible response Messiaen is anticipating is that the object of these words is "clearly" *not* an illusion given the wide use of these terms in musical discourse in Western classical music by composers, performers, critics, etc. In broad terms, the anticipation of this response structures Messiaen's decision to narrow the field of reference of these terms in compositional practice (i.e., "unimportant things that composers have ultimately taken little notice of") and instead suggest that pitch structure in his work (the "object" of the words tonal, modal, and serial) goes well beyond the conceptual boundary of these terms.

As before, a musical example of "responsive understanding" in the formation of musical intervals is in order. And since I have already invoked a quotation from Messiaen, I will stick to examples from his music. The examples in question illustrate an interval quality that is characteristic of his early and late style, the tritone. Before turning to these examples, it is worth pointing out how this example is constituted dialogically in his theoretical writings. Against the commonplace assumption that only the first five "audible" harmonics of the overtone series are capable of naturally grounding the "fundamental harmony" and consonant intervals of music, Messiaen declares matter-of-factly in *Technique of My Musical Language* that "a very fine ear *clearly* perceives an F-sharp in the natural resonance of a low C."[51] He then goes on to state that, on account of this natural resonance, "This F-sharp is endowed with an *attraction* toward the C, which becomes its *normal resolution*."[52] Clearly, this understanding of the tritone goes contrary to received understandings of this interval in Western music theory as a dissonance, outside the "natural resonance" given to the "audible overtones" and requiring resolution to the nearest

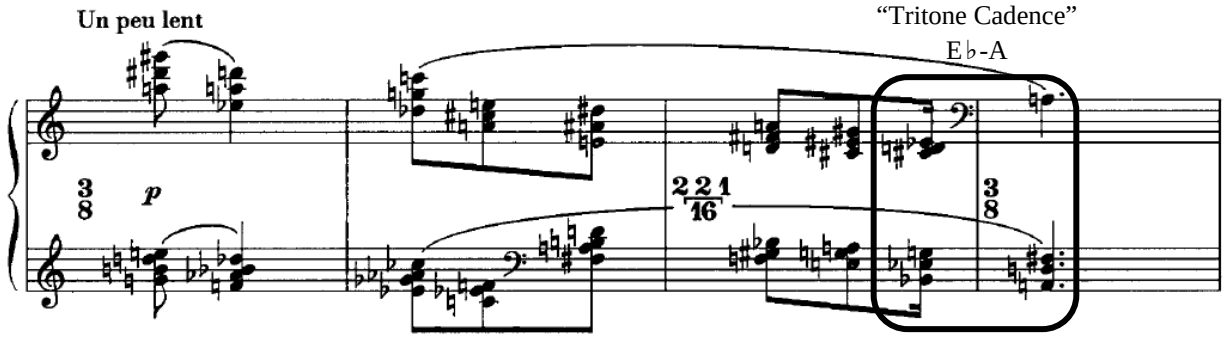
[51] Messiaen ([1944] 1956, 31), emphasis my own.
[52] Ibid., emphasis my own.

consonance, G. In short, then, Messiaen's discussion of the tritone in *Technique* includes as part of its definition a *critique* of received notions about the conceptual field within which this interval is understood in so-called "tonal" music. But does this dialogic understanding make a difference to the "sonic identity" of this interval? Of course, I believe it does and in the following examples I hope to show that dialogism is constitutive of the sonic identity of *all* intervals. To show how this is so, I turn now to three examples of what I am calling Messiaen's "authentic cadential tritone" (in dialogue with an authentic cadence) shown in Examples 3.8-3.10.

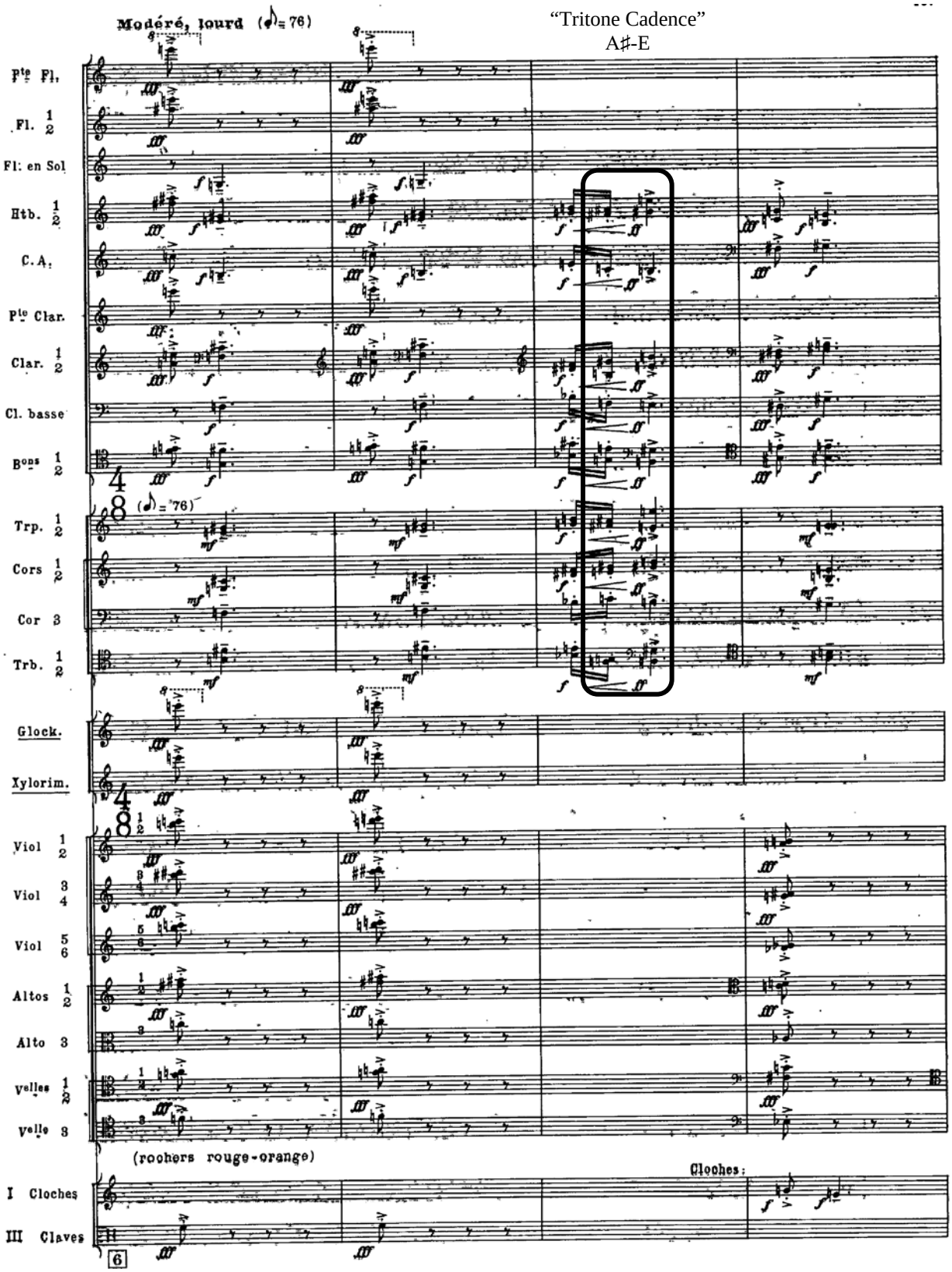
Example 3.8 shows the last three measures of the first phrase from the Intermezzo of Messiaen's *Quartet for the End of Times*, whose melody makes use of notes from his second modes of limited transposition ($OCT_{1,2}$) centered on E. The last measure of this example ends with a tritone descent to a sustained E that closes the phrase; a phrase that is defined and delimited by this quarter-note E and its parallelism with the following phrase starting at Rehearsal B (not shown). The notes A♯ and E, thus have all the makings of a melodically constituted "perfect authentic cadence": the formal function (it *ends* the phrase) and tonal content (it ends on the tonal center). Everything, that is, except for the more "normal" $\hat{2}/\hat{7}$-$\hat{1}$ melodic motion. Instead, the *note* A♯ submits to the note it is "attracted to" and proceeds to its "normal resolution" on E, thus on this note the *intervallic meaning* "authentic cadential tritone." Thus, this interval *responds* to "normative" understandings of "proper" resolution for authentic phrase closure (i.e., *only* from $\hat{2}/\hat{7}$ to $\hat{1}$)—the space of the "ought to" for the totality of involvements of



Example 3.8. Messiaen, *Quatuor pour la fin du Temps*, 4. "Intermède," mm. 6-8 (clarinet in B♭)



Example 3.9. Messiaen, *Éclairs sur l'Au-Delà*, VII. "Et Dieu essuiera toute larme de leurs yeux" (Messiaen's reduction of main chorale theme)



Example 3.10. Messiaen, *Des Canyons aux etoiles*, VII. "Bryce Canyon et les rochers rouge-orange," Rehearsal 6

perfect authentic cadences—by *expanding* the conceptual horizons of "proper resolution" (i.e., that "proper" resolution for authentic phrase closure *ought to* include the descending tritone). In doing so, Messiaen transforms (or, at least attempts to transform) the "restrictive" conceptual horizons (depending on the ideological orientation of the listener) of tritones that make them intelligible as such (e.g., that they are "dissonant intervals" requiring "resolution" to the nearest consonance). And this responsive understanding plays a constitutive role in this interval's sonic identity because it *motivates* the particular quality of this tone's sounding presence both at the level of contextual overtones (authentic cadence) and the interval itself. To see why, recall that intervals, *for experience*, are always particular to the situations they participate in. Moreover, because there is no single right way to experience this interval (e.g., A♯-E could be understood/interpreted as a descending contour segment, a descending $\hat{4}$-$\hat{1}$ motion in the Lydian mode, enharmonic ♭5-1 motion in the Blues tonal system, etc.), what makes our understanding of these different intervals intelligible as such is the totality of involvements with the situations of which intervals help to characterize. Given that these involvements are formed in an ever-changing environment of alien musical utterances about the same interval, I am arguing that we include as part of these involvements, the *responsive understanding* that allows these involvements to be individualized as it is in this Messiaen example. That is, understanding/interpreting this interval as an authentic cadential tritone (as opposed to Lydian $\hat{4}$-$\hat{1}$, "pure" atonal pitch interval 6, etc.) involves *critically responding* to what are believed to be "restrictive" conceptualizations of dissonance/consonance, resolution, and melodic motions "proper" to *normative* perspectives of authentic cadences by *expanding* the conceptual horizons within which the A♯-E can be understood as an "authentic cadential tritone."

The "authentic cadential tritones" in Examples 3.9 and 3.10 are constituted by a similar responsive understanding as is found in Example 3.8, but here, the more complex harmonic situations in which these intervals occur includes a broader field of involvements to which these intervals are responding. Briefly, Examples 3.9 and 3.10 both feature phrases that conclude by moving from more dissonant chordal formations to sustained "tonic" triads (both are major triads in second inversion). If we use Straus's set-class space as a metric of relative dissonance, the penultimate chord of the *Éclairs* example features a much less, but still relatively, dissonant pentachord—set-class (01258)—than that of the *Des Canyons* example—set-class (01234678).[53] However, because the penultimate chord of both examples proceeds to a second inversion triad, the general harmonic motion of both examples invokes the dissonance-to-consonance motion typical of V^7-I authentic cadences. As such, the "authentic tritone cadences" of Example 3.9 and 3.10 could be seen as more clearly in dialogue with the normative understanding of authentic cadences than Example 3.8 even as the phrases that the *Éclairs* and *Des Canyons* examples conclude are more strikingly dissonant and atonal. In general, however, all three examples respond to the "restrictive," or narrow, understandings of "authentic cadential behavior" by invoking an *expansion* of the conceptual horizon of the basic terms underlying "normal" cadential behavior (i.e., categories of consonance and dissonance, ideas of how these categories of intervals tend to resolve, etc.), and this expansion of the conceptual horizon of cadential behavior motivates how the melodic tritones in these examples—E♭-A for Example 3.9 and A♯-E for 3.10—are understood as such.

[53] See Straus (2005). The set-class of the *Des Canyons* chord, (01234678) is the same set-class of "chord A" of Messiaen's "Revolving Chords," although the registration of this chord differs from his usual practice. See Cheong (2003, 89) for an example of this chord.

The dialogic individualization of musical intervals (as well as musical utterances, such as formal functions and musical gestures, more generally) in an "elastic environment" of alien conceptualizations about the "same" musical object is thus *not* a passive assimilation of "other" understandings, but an active, *responsive* one. As a final thought on this matter, it is important to remember that the reason Bakhtin is at great pains to emphasize the responsive understanding of *all* utterances is that he is himself responding to a very influential understanding of language (still prominent today) that creates what Bakhtin sees as an abstract and artificial division between "speakers" who transmit verbal meaning and "listeners" who "receive" and thus understand this information.[54] Bakhtin's framework of linguistic understanding places the dialogic utterance *prior* to this distinction. As he writes, "The word is *born* in a dialogue as a living rejoinder within it; the word is shaped in dialogic interaction with an alien word that is already in the object. A word forms a concept of its own object in a dialogic way."[55] In this sense, speakers are *always* simultaneously listeners, and vice versa. The responsive understanding of the dialogic utterance has very important consequences for the distinction between poietic and esthesic analysis that I discussed in Chapter 2. In particular, a dialogic approach centered on the *responsive understanding* of musical intervals—whose meaning is formed ("individualized") in an ever-changing environment of alien conceptualizations about the "same" musical object—challenges the distinction between poiesis and esthesis. This is because the perceptual process is reconceived as an active, responsive one, whose *involved, or "interested,"* understanding serves as one aspect of the condition of possibility of understanding/interpreting an interval *as such* in experience. As such, given a dialogic

[54] The classic statement of this distinction, which divides language into an active and passive component, is Saussure's diagram of the "speaking circuit." See Saussure (1959, 11).
[55] Bakhtin (1981, 279), emphasis my own.

interpretative framework of tone presence, such distinctions between the composer's and listener's understanding of pitch structure collapse in a broader framework of responsive understanding.

SUMMARY

I began my account of the modes of being of musical intervals by scrutinizing a prevalent definition of intervals in music theory that reduces to a discrete quantity, which is often measured in semitones. This reduction of musical intervals to discrete quantities is grounded in the assumption that the pitch structure of music—of which the interval is a seminal exemplar—is an objectively given ("neutral" trace), autonomously governed, intrinsic property. However, when we look at what it is *to be* a musical interval, defining intervals by the number of semitones they contain is neither necessary nor sufficient. It is not necessary because, besides the *convention* of using the equal tempered piano as a reference point for all tuning situations (as opposed to the much more flexible environment of orchestral brass and woodwind players), there is no good reason why we should choose the semitone as the absolute unit of measure as opposed to other intervals (e.g., why not measure the tritone as two units measured in minor thirds respectively). Additionally, as Hasty notes from a more experiential perspective in the quote cited earlier, while one can easily imagine a musical situation in which three virtual beats are present in a dotted-half note in a 3/4 time, there is no real sense in which three semitones are present *for experience* in a minor third. Treating the semitone as an absolute unit of measure is also not sufficient because such a definition is incapable of *differentiating* between the indefinite range of potential hearings of the (purportedly) "same" interval; that is, the interval in Example 2.2 can be an appellative consonance, a flatted-fifth of the Blues tonal system, a contour interval,

etc., but a purely quantitative definition is incapable of distinguishing between these possibilities. As such, defining the "post-tonal" tritone in terms of the number of semitones it contains seems to be a "mere convenience," as Hasty says. This is not to say that the distance between pitches or pitch-classes is irrelevant. To the contrary, the distance between pitches, regardless of the unit of measurement, is a necessary feature of musical intervals since it tells us, for example, that an interval of 5 semitones is *not* a tritone. But these distances only provide *constraints* on what is not included in an intervallic category; it does not say what it is *to be* this interval.

In response to the question of the modes of being of musical intervals, I argued that what it is to be a musical interval are all those conditions which make intervallic relations and tones intelligible as such for experience. Additionally, I argued that the three assumptions grounding common understandings of pitch structure in music theory—that pitch is an intrinsic property of collections, an autonomous parameter, and best described at the neutral level—come with a presupposition that musical experience is simply the predication of properties. In contrast to this view, I began my account of the conditions of intelligibility of musical intervals by framing these conditions in an understanding of experience more generally as the *immersion in a situation*. Within these situations I described intervals as a meaning-conferring process by which relatively uninterpreted notes *are* given an interpreted meaning *as* tones through a process of integration. In this sense, musical tones and intervals are two sides of the same coin: tones emphasize the *product* of the relationships formed with other notes, while intervals emphasize the *relationship*. Crucially, I argued that these meaning-conferring processes are only understood/interpreted as *aspects*, or characteristics, of the holistic situations they participate in and these situations, in turn, are *organized* by a totality of involvements (the "in-order-to," "toward-which," and "for-the-sake-of-which") with these situations. To help understand this relation between holistic

situations organized by the totality of involvements and musical intervals, I invoked one interpretation of the classic gestalt metaphor: rather than the whole being greater than the sum of its parts, the whole determines what each part is. That is, we only see lips in Figure 1 once we have organized the image as two faces, based on the black functioning as ground and white as figure. Similarly, intervals/tones show up for experience as the figure to a ground of involvements with the situations they help characterize.

By emphasizing the totality of *involvements* of musical situations as the ground of intervallic understanding/interpretation, I may have implied that musical tones are purely subjective, monologic creatures, since one usually assumes that only individuals can be *involved* with situations. However, if we conceptualize intervals as musical utterances (albeit very short ones), which are defined and delimited by the changing of speaking subjects, then these involvements are, by definition, dialogical. Following Bakhtin's formulation, utterances (from the single word up to entire works) are "links in the chain of speech communion."[56] Given this dialogic orientation of musical intervals, I suggested the "elastic environment" of other utterances about the "same" interval (and tone) is constitutive for the formation of the interval's sonic identity in two ways that are especially important for this study. First, since intervallic utterances are always aspects of the holistic situations they participate in, the other aspects of these situations (e.g., expressive, motivic, rhythmic, timbral, etc.) exude *contextual overtones* that affect one's understanding of how these tones *ought to* behave in these situations (e.g., the "perfect authentic cadence" situation *ought to* descend a step to the tonic, and NOT a tritone, or the Hunting Horn topic *ought to* outline notes of a tonic major triad). Second, since the relation between two notes is never monolithic and contextual overtones affect how the understanding of

[56] Bakhtin (1986, 76).

how these tones ought to relate, an interval must *take a stance* with respect to different conceptualizations (i.e., "totality of involvements") of how notes ought to relate in these situations in order to form an *individual* concept of this relation and thus a specific sonic identity. As I argued in the previous section, it is the *responsive understanding*, whether critical or affirmative, of intervals that motivates the formation of a specific sonic identity.

To help bring these different strands of the modes of being of intervals together, the following chapter offers a case study that returns to a specific interval that I discussed at the beginning. I explore what is it to be an "authentic" atonal tritone/diminished fifth, which I will occasionally designate out of convenience, ro-interval 6. In exploring this interval, I take what may seem like a counterintuitive approach to this subject. Specifically, I explore possible understandings of the category "atonal" ro-interval 6, by exploring the presence of this category's prototypicality *effects* in a diverse array of twentieth-century "tonal" and "modal" musical examples. In other words, this case study seeks to understand the atonal category by exploring *how* and to what extent the *effects* of a dialogic orientation to this atonal category is *present* in tonal and modal examples. I am especially interested in how a range of different tritones are *constituted* in tonal and modal situations by virtue of their dialogic orientation to atonal tritones. This dialogic orientation of "tonal" and "modal" tritones, then, gives us insight into the atonal tritone. Now, this approach may seem counterintuitive in the sense that "atonality" is frequently seen historically as some kind of ("deviant") negation of a prior and more natural tonal (or modal) "language," but from the dialogic perspective of musical utterances, there was never a single "language." As an extension of utterances, languages themselves are constituted dialogically. Historically, languages have *always* exhibited differing degrees of what Bakhtin describes as "heteroglossia," or social-ideological stratification of

linguistic understanding.[57] By examining the prototypicality effects of "atonal" tritones in presumably "tonal" environments, the following chapter illustrates how this heteroglossia has always been involved in tonal understanding.

[57] Bakhtin (1981).

Chapter Four

Case Study: "Authentic" Atonal Tritones

"AUTHENTIC" TRITONES AND DIMINISHED FIFTHS IN "TONAL" MUSIC

While I am interested in musical situations where "tonal" tritones and diminished fifths are understood in terms of their response to the atonal category, tritones and diminished fifths are actually rarely presented *as such* in eighteenth and nineteenth-century European classical music.[1] The reason is that the two most common interpretations of this interval are either as the "appellative consonance" of a V^7 chord or a tonicizing/modulatory motion from the tonic root ($\hat{1}$) to the leading tone of a secondary dominant ($\sharp\hat{4}\Rightarrow\hat{7}$[2]), and in both cases the tritone is a *byproduct* of a more basic harmonic/melodic motion. In the case of the appellative consonance, this interval is not merely the distance between the third and seventh of the fundamental dominant seventh chord, but is defined in terms of its "calling forth" of its eventual resolution to the root and third of a tonic triad. Thus, from an experiential perspective, the *implied* linear resolutions from $\hat{7}$ to $\hat{1}$ and $\hat{4}$ to $\hat{3}$, even in the absence of an actual resolution, are the primary meaning-conferring processes that determines appellative consonance's sonic identity. As such,

[1] Because of the phenomenological problem with using the number of semitones as an index of the sonic identity of an interval discussed in Chapter 2, I have decided to use the traditional terminology of "atonal tritones/diminished fifths" to describe particular *interpretations* of ro-interval 6. However, on those occasions where I am describing an *uninterpreted* instance of this interval, I will use ro-interval 6. Furthermore, although tritones and diminished fifths are clearly different intervals in terms of their enharmonic *spelling* in tonal music, there are many instances where it *is* appropriate to treat them as equivalent. For instance, the appellative consonance of the V^7 really refers to a more abstract relation between members of a chord in pitch-class space rather than specific *pitches*. As such, regardless of whether the third of the chord is above or below the seventh, it is *still* an appellative consonance as long as these notes partake in a V^7 chord. The same holds for the relation between $\hat{1}$ and $\sharp\hat{4}$ since the sounding presence of scale degrees is similarly often understood/interpreted in pitch-class. As such, I frequently denote these intervals as tritones/diminished fifth when I interpret the intervallic relation between these intervals in pitch-class space.

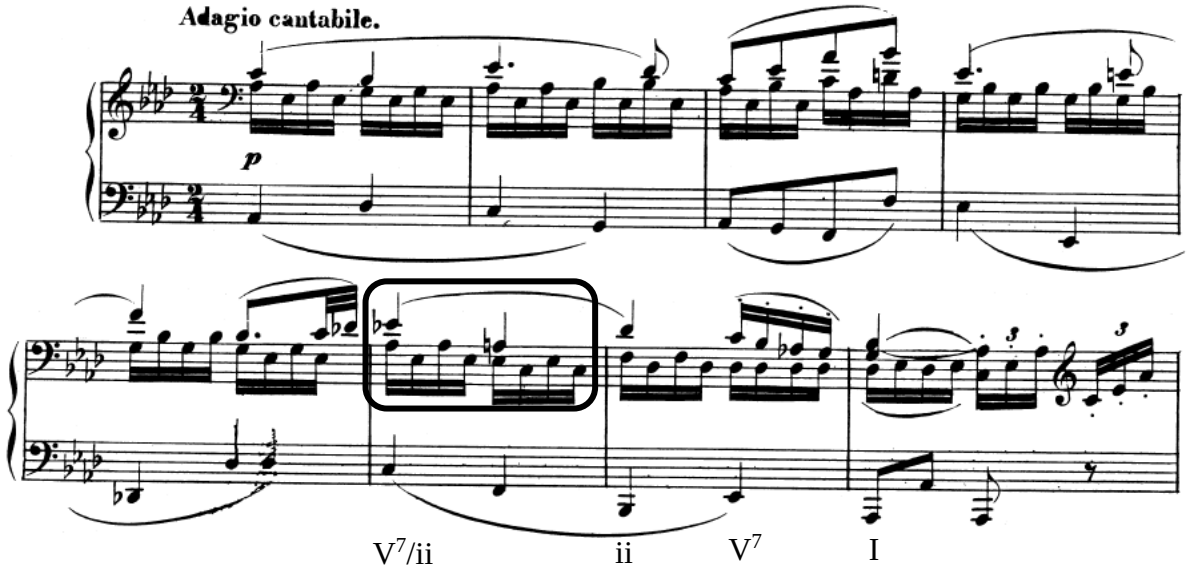
[2] The double-lined right arrow, meaning "becomes," is adapted from its use in Schmalfeldt (2011, 9) and means that, for example, $\sharp\hat{4}$ is reinterpreted as $\hat{7}$ in the key of the dominant as the tone progresses in time.

the tritone/diminished fifth relation between the third and seventh of the V^7 chord is not an authentic intervallic integration, but merely the byproduct of each voice's strongly directed motion by semitone that is commonly attributed to this interval. This is even more true of a Schenkerian reading of this interval, where the tritone dissonance of the V^7 chord is *inherently* dependent on the consonant triad that it elaborates.

As for the motion from $\hat{1}$ to $\sharp\hat{4}\Rightarrow\hat{7}$, this relation, too, is a byproduct of a more basic relation, because to understand/interpret the second tone *as* $\hat{7}$—or, more accurately, the functional agent—of a secondary dominant is to hear this interval as *implying* a resolution to $\hat{1}$ of the new tonic *and moving away from* the initial tonic. Rather than the initial $\hat{1}$ integrating to $\sharp\hat{4}\Rightarrow\hat{7}$, the reinterpretation of $\sharp\hat{4}$ *as* $\hat{7}$ suggests a *departure* from the presence of scale degree $\hat{1}$, rather than its integration to $\sharp\hat{4}$. So, the formation of an *intervallic* relation between $\hat{1}$ and $\sharp\hat{4}\Rightarrow\hat{7}$ is more a chimera than real, since $\sharp\hat{4}\Rightarrow\hat{7}$ is directed toward the implied resolution to a *new* $\hat{1}$.

Given that the most common instances of tritones in eighteenth- and nineteenth-century European classical music are better thought of as a byproduct of more basic intervallic relations, one could think of the "authentic" experience of tritones as inherently atonal, and thus only occurring in this repertoire to the extent that the stability of tonal motion is attenuated. As such, before I proceed to twentieth-century examples, it is worth stopping to briefly explore two very different responses to the "normative" behavior of the appellative consonance and $\hat{1}$-$\sharp\hat{4}\Rightarrow\hat{7}$ motion, respectively, to help illustrate what kinds of responses give rise to an understanding/interpretation of this "authentic" tritone. The central questions for these examples are thus when does the tritone become *legible* for experience given its byproduct status in this repertoire and how does this legibility come about?

The first example, from the second movement of Beethoven's "Pathetique" Sonata (see Example 4.1), features an interval whose response to the behavior of appellative consonances is just on the verge of legibility as a tritone since it mostly *affirms* this behavior, but *expands* the conceptual field in which it operates in very subtle ways. As shown in Example 4.1, the appellative consonance occurs in the continuation phrase of the opening theme (m. 6) as a part of a V^7/ii chord, whose resolution to ii initiates a cadential progression that ends in the home key. As such, the E♭4 integrates with A3 *as* an appellative consonance of a secondary dominant *in order to* anticipate the resolution to the root and the third of the predominant, ii chord *toward*



Example 4.1. Beethoven, Piano Sonata no. 8, Op. 13 "Pathetique," second movement, mm. 1-8

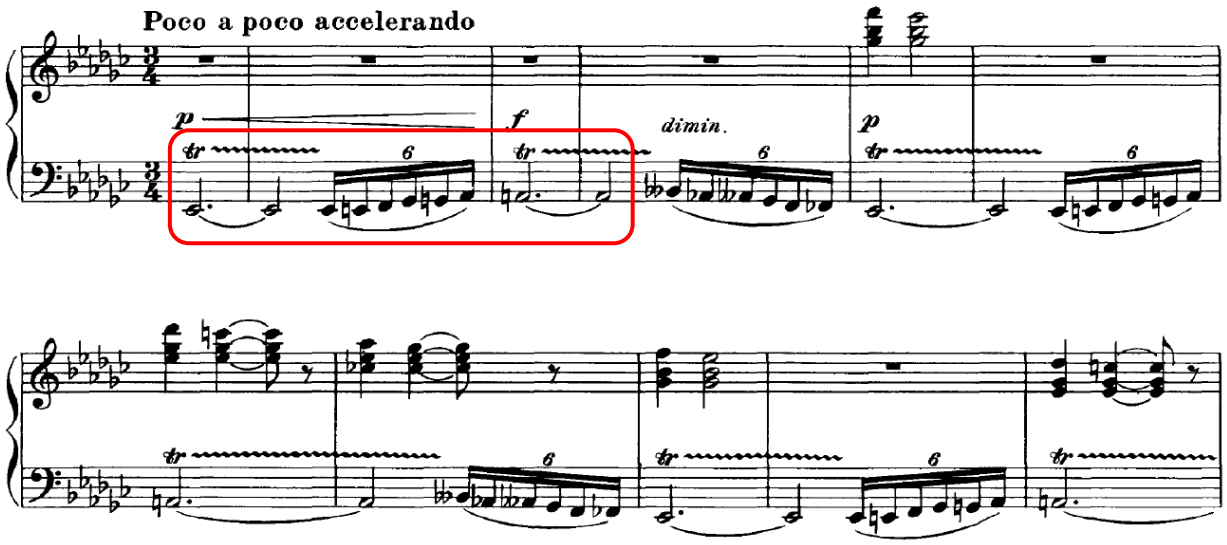
establishing the destabilizing function of the continuation phrase *toward* setting up the cadential progression *for the sake* of rationalizing the ideology of goal-directed motion. This somewhat oversimplified totality of involvements motivates the intelligibility of the "appellative consonance of the secondary dominant," but there is another layer of detail that addresses how

the situation of this example responds to alien understandings of the "normal" appellative consonance. Since the resolution of A3 in the melodic line's inner voice does not *directly* resolve to B♭3 as a part of a secondary dominant,[3] while the upper voice E♭4 proceeds to D♭4 per usual as a part of a linear progression *in A♭ Major*, the A3 becomes much more strongly attached to E♭4 as a vertically integrated tritone and *against* the usual status of this relation as a byproduct of more basic tonally constituted linear relations. Still, its legibility as a vertically integrated interval, *against* the grain of its linearly oriented tonal components, is rather weak since the normal resolutions of this progression do occur in the imaginary continuo (i.e., A3 can be heard to resolve to B♭1 in the bass).

The next example, from "Gnome" in Mussorgsky's *Pictures at an Exhibition* is much more clearly legible *as* a tritone since the means by which the situated understanding of this interval challenges tonal understandings of the $\hat{1}$ to $\sharp\hat{4}\Rightarrow\hat{7}$ relation is much more intense. This challenge is shown in Example 4.2. Since this phrase is a varied repetition of the primary thematic material (mm. 19-28), which features a simple, stepwise descending melodic line in E♭ minor, the first trilled E♭2 is marked from the beginning as the root of a tonic triad in the minor mode. Briefly put, the situated presence of A♮2 in this example challenges alien understandings of the normal behavior (and therefore, sonic identity) of $\sharp\hat{4}$ with respect to the major and minor diatonic modes. As I suggested earlier, $\sharp\hat{4}$ does not exist *as such* in the major/minor "system" of this repertoire since its very sounding presence normally signals a reinterpretation as leading tone to the dominant harmony, especially when placed in the bass since this voice plays a foundational role in terms of harmonic progression in eighteenth- and nineteenth-century

[3] Though, it does resolve as a part of the imaginary continuo in a different voice.

European classical music. As such, when ♯$\hat{4}$⇒$\hat{7}$ follows $\hat{1}$, its normal behavior is not to integrate with this tone in the formation of an interval, but to *move away* from the "virtual environmental fields" of this tone's presence.[4] In Example 4.2, on the contrary, the menacing quality of the crescendo and sixteenth-triplet anacrustic figures into and out of A♮2 (*in the bass*) in the environment of E♭ minor, *integrates* with the tonic *as* ♯$\hat{4}$. Thus, against alien utterances that



Example 4.2. Mussorgksy, *Pictures at an Exhibition*, 2. "Gnome," mm. 72-82

suggest ♯$\hat{4}$ *ought not* integrate with the tonic *as* an interval in the major/minor system, this example challenges such understandings by disrupting any expectations that this scale degree might resolve, or even implicate a resolution, to $\hat{5}$. In doing so, it makes the tritone strongly legible *as* an interval in a tonal environment.

In short, the legibility of the tritone as an interval in a tonal environment seems to be contingent on the degree to which alien understandings about how notes *should* behave in this

[4] "Virtual environmental fields" is a concept Hatten (2004, 115) uses to describe the effects of both Steve Larson's tonal forces (gravity, magnetism, and inertia) and metrical ones on musical gestures.

"elastic" environment is challenged (and, in the process, expanded). In the Mussorgsky example, the challenge is much more striking than it is in Beethoven because the Mussorgsky example made space for an "extra" scale degree quality (♯$\hat{4}$) that has traditionally been understood as a boundary point of tonal motion, and therefore excluded from the conceptual horizons of the eighteenth- and nineteenth-century major/minor systems. Still, in both cases the legibility of the tritone for experience is formed through its challenge to alien utterances about this interval's "proper" behavior.

My two examples of the situations where tritones become legible in nineteenth-century tonal environments might imply that the dialogic relation that makes these intervals legible is simply between tonal and atonal conceptualizations. However, treating tonal and atonal intervals as a binary opposition is extremely simplistic since tonal understanding, itself, has always been the embodiment of an irreducible plurality of dialogized voices. Whether it is the dialogic relation between modern and ancient tonal systems in Fétis, European classical tonality and "Arab" modal systems (in which the "western" [mis-]representations of "Arab" tonal systems have always revealed more about tonal understanding than anything else), blues vs. classical tonal systems, atonality and tonality, since the inception of discourse *about* tonality, tonal understanding has been constituted in by its responsive understanding to its ever-changing others. Tonal and atonal intervals have thus *always* embodied what Bakhtin describes as heteroglossia, or the socio-ideological stratification of many voices and dialects *within* a "single" language. The only possible difference in twentieth-century music is that the ideological means that have traditionally kept these alternative voices at bay (what Bakhtin describes as the "centripetal forces" of language) were no longer unquestioned.[5] And so the social stratification

[5] See Bakhtin (1981, 270) for his discussion of the centripetal forces of language.

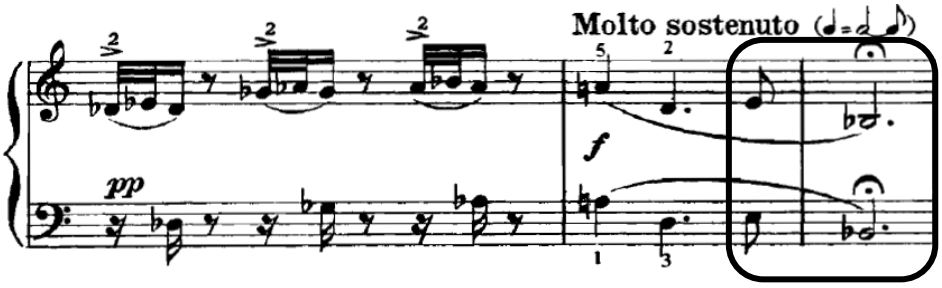
and dialogic relations of (a)tonal intervals, which has always been there (though in different ways at different times and places) is much more apparent in musical discourse in the twentieth century. The heteroglossia of tonal systems in the twentieth century is obviously an immensely complex topic which is beyond the scope of this chapter. I raise it here to point to the fact that the prototypicality effects of the atonal tritone/diminished fifth cannot be reduced to a binary atonal/tonal dialogic framework. In what follows, I explore four twentieth-century examples of tritones in tonal and modal environments that complexify the simple tonal/atonal binary, and thus expand our understanding of the prototypicality effects of the atonal tritone/diminished fifth category.

Besides the much more pronounced heteroglossic environment in which twentieth-century atonal tritone/diminished fifth become legible, the following examples emphasize three different kinds of prototypicality effects: 1) responses to the intraopus and interopus contextual overtones of musical situations,[6] 2) conflicts between "normal" modal and tonal behavior of tones, and 3) expressive estrangement leading to a positive integrative resistance. Additionally, the following four examples places more emphasis on *how* the responsive understanding is present in the sonic identity of these intervals, especially in their expressive behavior. With that in mind, I turn to my first example from Bartók's 14 Bagatelles, which exhibits the effects of

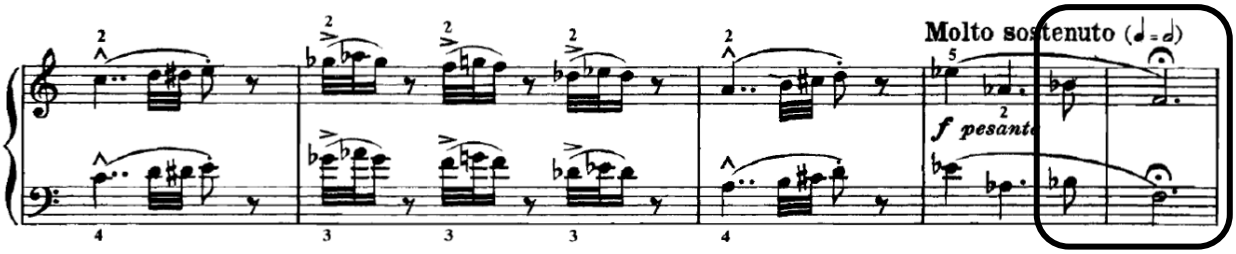
[6] The concept of "intraopus" contextual overtones is used in analogy of Meyer's (1989), discussion of intraopus style, which is concerned with "what is replicated *within* a single work" (Ibid., 24). Interopus style thus refers to replications of patterns *between* works. Of course, as work centered on intertextuality in music and literary theory has persuasively argued, the distinction between characteristic patterns that are specific to a single work ("intraopus style") and characteristics that spread across several works ("interopus style") is impossible to maintain, for, as Michael Klein (2005, 14) speaking on the "unity" of the work puts it, "Counter to claims of the unity of a work, the only totally unified text is precisely the one whose hermetic form is impervious to both analysis and comprehension, because it forms no intertext." And yet, in the analyses that follow, I will retain the distinction between the association of patterns and their responsive understanding within and between pieces primarily for pragmatic purposes. The difference of intra- and intraopus contextual overtones *within* and *between* pieces is thus approached as a difference degree, not kind, and is simply a *choice* about the scope of my analysis. I still treat all (musical) texts as necessarily intertexts.

intraopus and interopus contextual overtones and a conflict between modal and tonal intervals in the production of atonal tone presence.

Example 4.3a shows a tritone from Bagatelle No. 9, from Bartók's 14 Bagatelles. This interval occurs in the context of a kind of cadential refrain whose first appearance (see Example 4.3b) ends with an anacrustic perfect fourth and features a pitch-class collection, (0257), that Zoltán Kodály described as characteristic of pentatonic Hungarian folksong.[7] In fact, the anacrustic perfect fourth from $\hat{4}$ to $\hat{1}$ is a characteristic ending gesture that is deployed in many

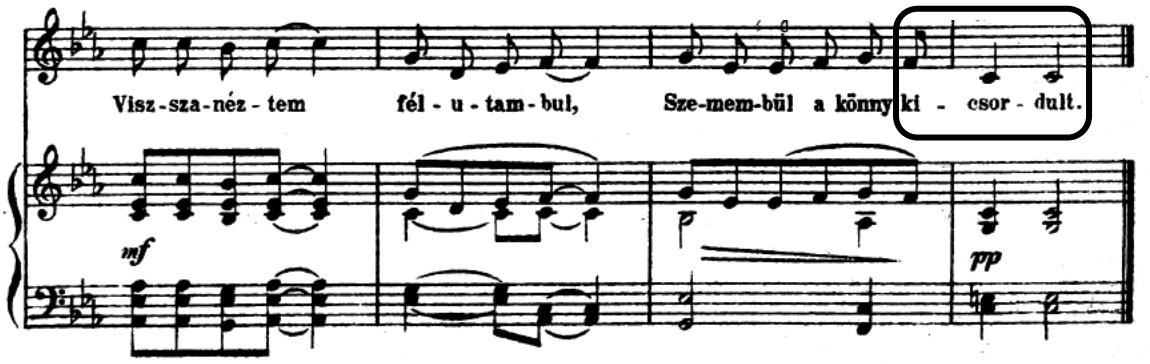


Example 4.3a. Bartók, 14 Bagatelles, No. 9, mm. 36-37

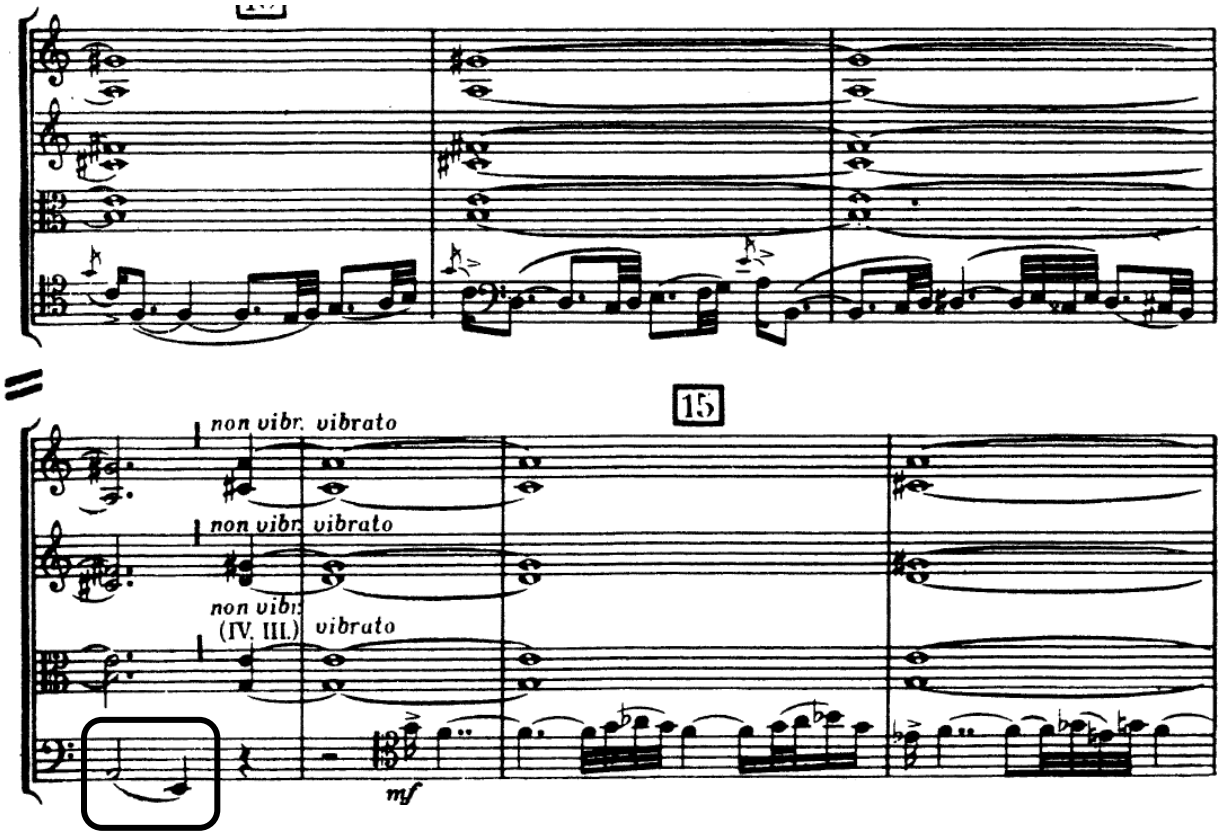


Example 4.3b. Bartók, 14 Bagatelles, No. 9, mm. 10-14

[7] See the collection in the third measure of Example 16d in Kodály (1970, 238).



Example 4.3c. Bartók, *Magyar Nepdalok* (*Hungarian Folk Songs*), No. 1 "Elindultam szep hazambul" (I left my fair homeland"), mm. 9-12



Example 4.3d. Bartók, String Quartet No. 4, third movement, mm. 10-16

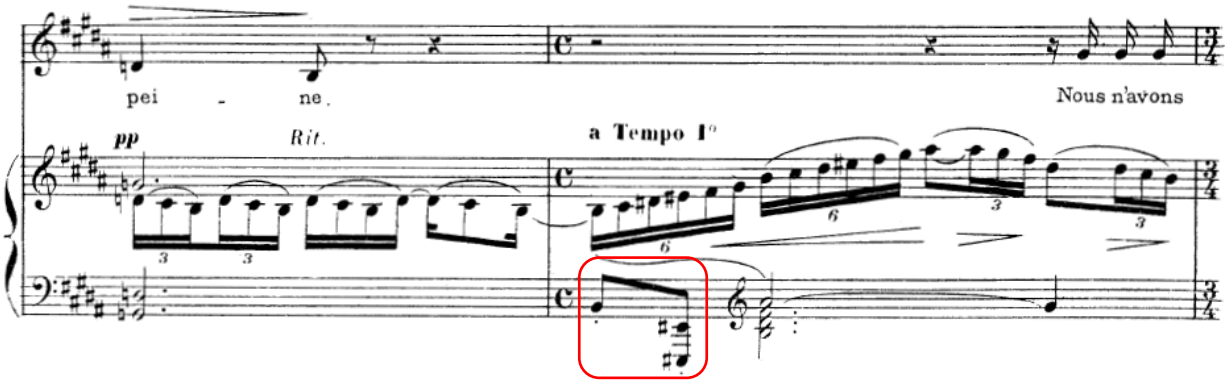
of Bartók's transcriptions and arrangements of Hungarian folk songs, as well as his original compositions (e.g., in the cadential gestures in the solo cello passages in the third movement of his Fourth String Quartet [Example 4.3d provides an example]). An example from one of

Bartók's Hungarian Folksong arrangements is shown in Example 4.3c, where it harmonizes the F-C vocal line with a plagal cadence in C with a Picardy third. If the intervallic relation between E-B♭ in Example 4.3a is understood as not just a motivic association defined by relative similarity, but a *response* to the cadential situation in Example 4.3b (an intraopus response), and if the cadential perfect fourth is heard as engaging a characteristic cadential gesture at the end of Example 4.3c (interopus response), then the dialogic situation of E-B♭ in Example 4.3a is not simply the denial of the expectation for some kind of "pure" functionless perfect fourth, but an engagement with a B *minor* pentatonic close (analogous to the F minor pentatonic close of Example 4.3b). The F minor pentatonic closure of Example 4.3b is itself made intelligible by its difference with respect to the contextual overtones of minor mode melodic cadences (i.e., it descends by a perfect fourth instead of major second), and this response to alien understandings of cadential behavior (similar to Messiaen's "authentic cadential tritones") points to the common, if problematic, understanding/interpretation of the *an*hemitonic pentatonic scale degrees in terms of their behavioral difference from minor diatonic scale degrees. The descending anacrustic fourth thus plays a crucial role in *orienting* the four notes of the refrain (especially given the fragmentary and tonally fleeting characteristics of the ninth Bagatelle's phrase formations). As such, unlike the Mussorgsky example whose tritone became intelligible by pushing against and *expanding* alien understandings of ♯$\hat{4}$ as a "legitimate" scale degree *in* a tonal environment, Bartók makes the tritone legible through its disorientation of the *grounds* of the pentatonic modal-tonal dialogic relation. But this is not simply a *momentary* disorientation until we get reoriented to either a *new* modal final on B♭, or, enharmonic to the leading tone of B minor. Such an understanding/interpretation would lead to a situation in which B♭ eventually abandons its integrative allegiance to E, and thus its very status *as* a tritone (recall that intervals

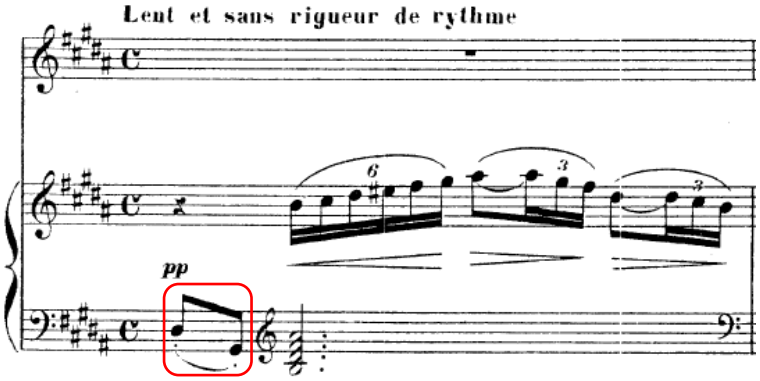
are meaning-conferring processes by which notes are integrated in the becoming of meaningfully interpreted tones). Rather, this interval retains its legibility as an "authentic" tritone by creating a void in the B♭ *as a tone* due to its *challenging* of the cadential overtones that made the modal pentatonic-via-minor diatonic dialogic orientation of the refrain intelligible in the first place.

Although the disorientation caused by substitution of a tritone (the *diabolus in musica*) in place of an expected consonant interval might seem like it would always lead to a sense of void in the second tone of the intervallic relation, this is not necessarily the case. The sense of void in Example 4.3a is unique to the situation in which this interval occurs. To illustrate this point, consider the effects of tonal disorientation in Example 4.4a from "la flûte de Pan," the first song from Debussy's *Trois Chansons de Bilitis*. Similar to Bagatelle No. 9, Debussy substitutes a descending ro-interval 6 for an expected perfect fifth (see Example 4.4b). However, once we examine this interval as an *aspect* of the formal, expressive, and motivic *situation* that it participates in, the similarity between these examples begins to fade. The situation the interval in m. 12 responds to is a very abbreviated example of one of Debussy's "formulaic openings" that James Hepokoski describes as a monophonic opening, which breaks the silence prior to the beginning of the piece with a solo line that orients the tonality of the movement, only to be made harmonically ambiguous with the entrance of the either voices of the ensemble (in this case, just the other voices of the piano).[8] As such, the G♯ in the bass in m. 1 integrates with the preceding D♯ *as* an *orientational* dominant-tonic motion (Example 4.4b) that establishes the gravitational pull of this tone. However, the *orienting* function of this interval is immediately resisted by the large leap to the BM7 chord in the left hand and a melodic gesture that emphasizes the centricity

[8] Hepokoski (1984, 45-47).



Example 4.4a. Debussy, *Trois Chansons de Bilitis*, I. "la flûte de Pan," mm. 11-12



Example 4.4b. Debussy, *Trois Chansons de Bilitis*, I. "la flûte de Pan," m. 1

of this chord by outlining a B Lydian scale, which is indexed by the characteristic scale degree, E♯. This interpretation of E♯ is especially viable if we bring prior awareness of the Pastoral genre evoked in the poetry by Pierre Louÿs, and common associates of this mode with the Pastoral.[9] Thus, when the E♯ integrates with B in m. 12, the intervallic integration is responding

[9] See Gibbons (2008, 9-13) for a discussion of the poet, his relation to Debussy, and use of the pastoral in the collection of poems by Louÿs that Debussy set to music. Additionally, Gibbons (Ibid., 15) also suggests that the opening figure, which he identifies as the "Syrinx" motive, has a degree of tonal ambiguity, although he identifies the ambiguity as being between G♯ dorian and B Lydian, whereas I hear the initial descending perfect indicating the tonic and dominant of the *minor mode* whose tonal orientation is only *truly* resisted when the E♯ indexes the lydian

to the contextual overtones of this interval as formal-harmonic orientation, the anticipation that the chord following this interval will attempt to resist the tonal gravity of this interval, as well as the expressive invocation of the pastoral genre that motivates the understanding of the *melodic* E♯ as an index of the modal orientation of the right hand. Additionally, the Lydian scale in the right hand begins one beat early and is extended to two octaves, thus strengthening the modal identity of this figure *at the same time* that B- E♯ is responding to the sonic identity of the interval at the beginning of the piece. Given this situation, the integration of E♯ to B responds to the alien understanding of how monophonic opening formulas *ought to* operate in Debussy's music. Specifically, the formal function (i.e., initiating the phrase formation) of the opening formula is *dissociated* from the harmonic function of establishing the tonal center of gravity of the phrase. This occurs at the *onset* of the legible presence of this interval *as* an "authentic" tritone in a modal/tonal environment. This legible presence, in turn, *frees* the two-octave Lydian melody in the right hand from the original "virtual environmental" forces that made this gesture ambiguous in the first place. (At the same time, since the interval in the bass in m. 12 addresses itself to the contextual overtones of the opening interval's understanding of monophonic openings and *not* the modal indexicality of E♯, this interval does not integrate as scale degrees 1 and 4 of Lydian even as its abstract pitch-class identity belongs to this collection.) As such, although the Bartók and Debussy examples can both be seen at some level as "disorienting" since they deny expectations set up by their bare "similarities" to earlier musical ideas, the responsive understanding in Debussy plays a *clarifying role* in the larger context of the phrase as the ambiguity in the Lydian melody present in the beginning is absent in m. 12.

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mode by virtue of it dialogic differentiation from scale degree behavior of 4 in B Major. It's a subtle, but important difference, dependent on how I interpret the ongoing flow of the music.

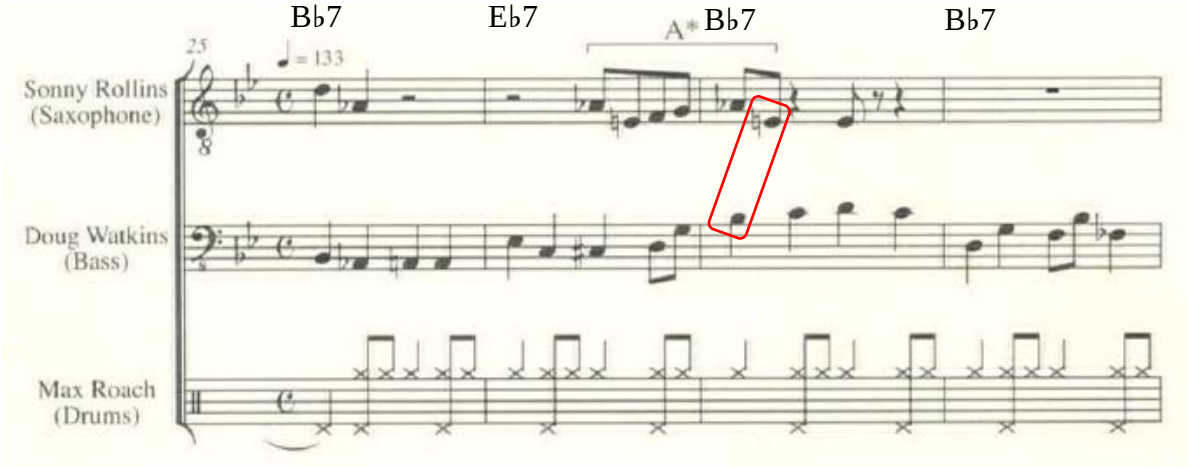
In the previous two examples, we have seen how the contextual overtones of musical situations (i.e., "cadential situations" and "Debussy's monophonic opening formulas"), and, crucially, *alien understandings* about the "proper" behavior and "normal" sonic identity of intervals in these situations play a constitutive role in what it is *to be* an interval for experience. The prototypicality effects of the atonal tritone/diminished fifth category show up in these examples in terms of the specific *way* that each example responded to these alien understandings, and, by this response, made the interval legible to differing degrees as an "authentic" tritone (as opposed to a "byproduct" of more basic relationships of tones that the notes of this tritone participate in). In my interpretation of the Bartók example, the prototypicality effect felt in this this interval was that of a "disorienting void" left in the second tone of the intervallic relation. This effect results from questioning the alien understanding of the descending anacrustic gesture of the refrain *as* a modally defined cadential situation typical of Hungarian folksongs. The prototypicality effect felt in the Debussy is that of a kind of liberating disorientation because of its role in *actively* dissociating the harmonic and formal functions typical of his monophonic opening formulas by abandoning the gravitational pull of this bass figure and thereby eliminating any ambiguity in the Lydian identity of the melodic figure.

All of my examples so far seem to presume that the prototypicality effects of atonal tritones/diminished fifths are felt only in Western classical music, but the elastic environment of "western classical music" is just as dialogically constituted by its many and ever-changing others as the musical intervals that help make up this genre. And the same holds for all other genres (e.g., rap music, jazz, rock music, etc.). Genres are not fixed, but contested categories constituted in part by their dialogic orientation to other genres. As such, the following example from Sonny Rollins's "Blue 7" gives an example in which the "Classical" tritone, as dialogized *other*, gives

rise to prototypicality effects by its responsive understanding of how this interval *ought* to behave in specific genres.

Example 4.5 shows the opening bars of Rollins's opening chorus from "Blue 7" on his classic album, *Saxophone Colossus*. The interval in question occurs in the third measure of this example between Sonny Rollins on tenor saxophone and Doug Watkins on bass in the context of a B♭7 harmony (the "tonic" of the 12-bar blues form). Given the context of the harmony and form, Rollins's E♮(=F♭) takes on the possible understanding/interpretation as a "flatted fifth" in the Blues. As the musicologist Gerhard Kubik notes, when this interval occurs in the Blues it often serves as the initiating note of a descending phrase (e.g., F♭- E♭- D♭- B♭ in B♭).[10] Furthermore, the intonation of this note is frequently bent upward and downward around this interval and is frequently played with great dynamic intensity. Sonny Rollins's use of the flatted fifth in "Blue 7" has none of these features. His performance in this opening chorus is calm, quiet, and subdued. He avoids the use of vibrato, avoids the dynamic intensification of the flatted fifth and plays the note straight without any bends. There is thus something sly about the way Rollins performs this E/ F♭, given the context of the 12-bar Blues form, that raises the possibility of understanding/interpreting this interval as a subtle, and playful questioning (i.e., responsive understanding) of the restrictive boundaries of what it is *to be* a flatted fifth (i.e., those features just mentioned which function in part as this interval's contextual overtones) as well as this interval's restricted use in reference to the Blues tonal system. (This questioning is in some ways like the post-soul aesthetic mentioned earlier, which also sought to *expand*, rather than deflate

[10] Kubik (1999, 183). Kubik identifies Bessie Smith as a musician who consistently makes use of the flatted fifth in her singing. A good example of this is in Bessie Smith's rendition of "Backwater Blues," where she sings the flatted fifth on the word "skies" in the line "When it rains five days and the SKIES turn dark at night," and proceeds to move downward to the tonic (i.e., E♭-D-C-A in A).



Example 4.5. Sonny Rollin's first chorus from "Blue 7" **(**annotated reproduction of Example 1 from Givan [2014, 175])

altogether [as in, anti-essentialist understandings], understandings of "black aesthetics."[11])

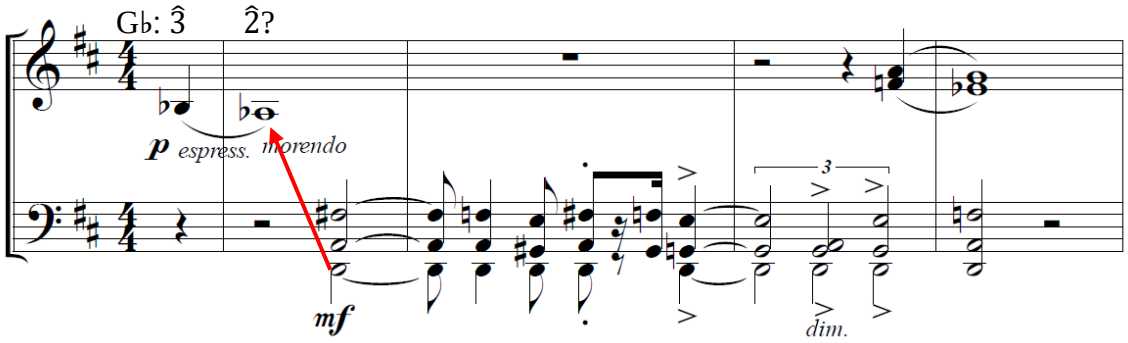
One possible understanding of how this "expansion" occurs is by thinking of "Classical" harmony and voice-leading as the "other" to which the Blues flatted fifth is in dialogue (as opposed to the opposite situation where the Blues tonal system is the other of Classical "norms"). From the perspective of Classical harmony and voice-leading, the E♮ *implicates* (or, *ought to* implicate) a resolution to F *for the sake of* retaining the "proper" melodic motion and relations of *dependence* of this interval as a dissonance on the consonant interval it (*should*) elaborate in "Classical" music. This simplified version of the "classical" totality of involvements of this interval would then function as the condition of intelligibility of understanding/interpreting the *note* E♮ as a "non-harmonic chromatic neighbor" to F in its (intervallic) relation to the harmonic root played by Watkins on Bass. Now, if we think of Rollins's abnormally subdued performance

[11] Of course, since this record was produced during the civil rights movement, it would not technically count as an example of the post-soul aesthetic according to Ashe's (2007) chronologically based definition of the post-soul aesthetic as involving artists of the post-civil rights generation.

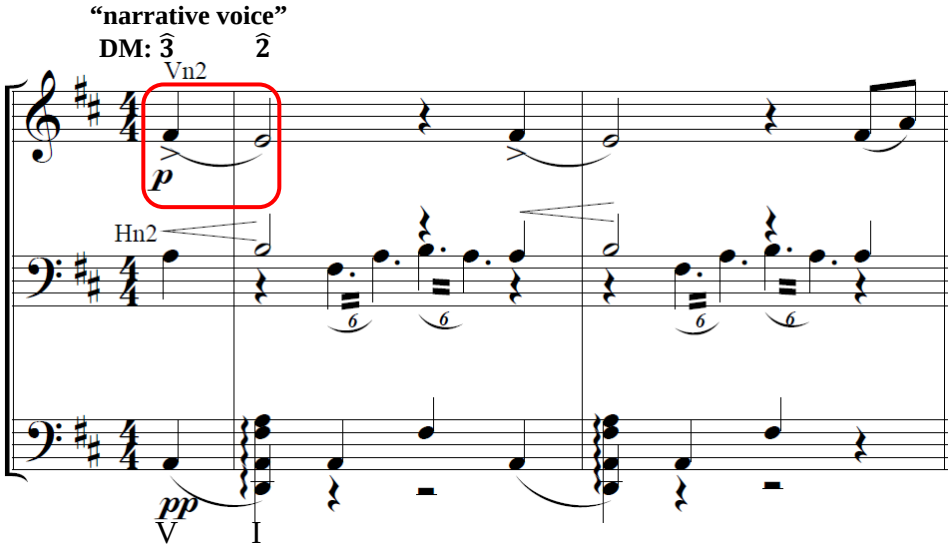
of the flatted fifth as introducing this "Classical" totality of involvements as an *alien understanding* of how the *flatted fifth* (rather than "non-harmonic chromatic neighbor") *should* behave in the situation of a twelve-bar blues form—over a *tonic* B♭7 harmony whose minor seventh implicates an *upward* ascent to the tonic, mind you—then Rollins's flatted fifth *displaces* the conditions of intelligibility (i.e., that it should initiate, or, at least implicate a descending phrase in the Blues tonal system, that it is normally "bent," etc.) of this interval's sonic identity toward a space of uncertainty as to what actually constitutes the "appropriate" behavior, and therefore understanding/interpretation of this interval *as* flatted-fifth. It is important to emphasize that this uncertainty caused by the introduction of alien understandings *still occurs within the conceptual horizons* of the "flatted fifth of the Blues tonal system." Within these conceptual horizons, the *effect* of this displacement-of-understanding-leading-to-uncertainty of the interval's sounding presence leads to the legibility of this interval as a tritone.

The final two examples emphasize an essential aspect of the prototypicality effects of atonal intervals, as well as the condition of intelligibility of intervals and tone presence more generally, that has not yet been emphasized; that is, the role of the expressive resonance of situations in making intervals legible as tritones. Both examples center on the feeling of estrangement within their respective "tonal" environments. The first example from the first movement of Mahler's Ninth Symphony features one of the most intensely expressive intervals in all his symphonies, while the form of estrangement in the last sounding interval of the third movement of Bartók's Fourth String Quartet exposes the deception of the tonality's calming effect through his evocation of "Night music" style. In both cases, though, I argue it is the expressive quality of estrangement that makes these intervals legible as "atonal" tritones in their particular "tonal" contexts.

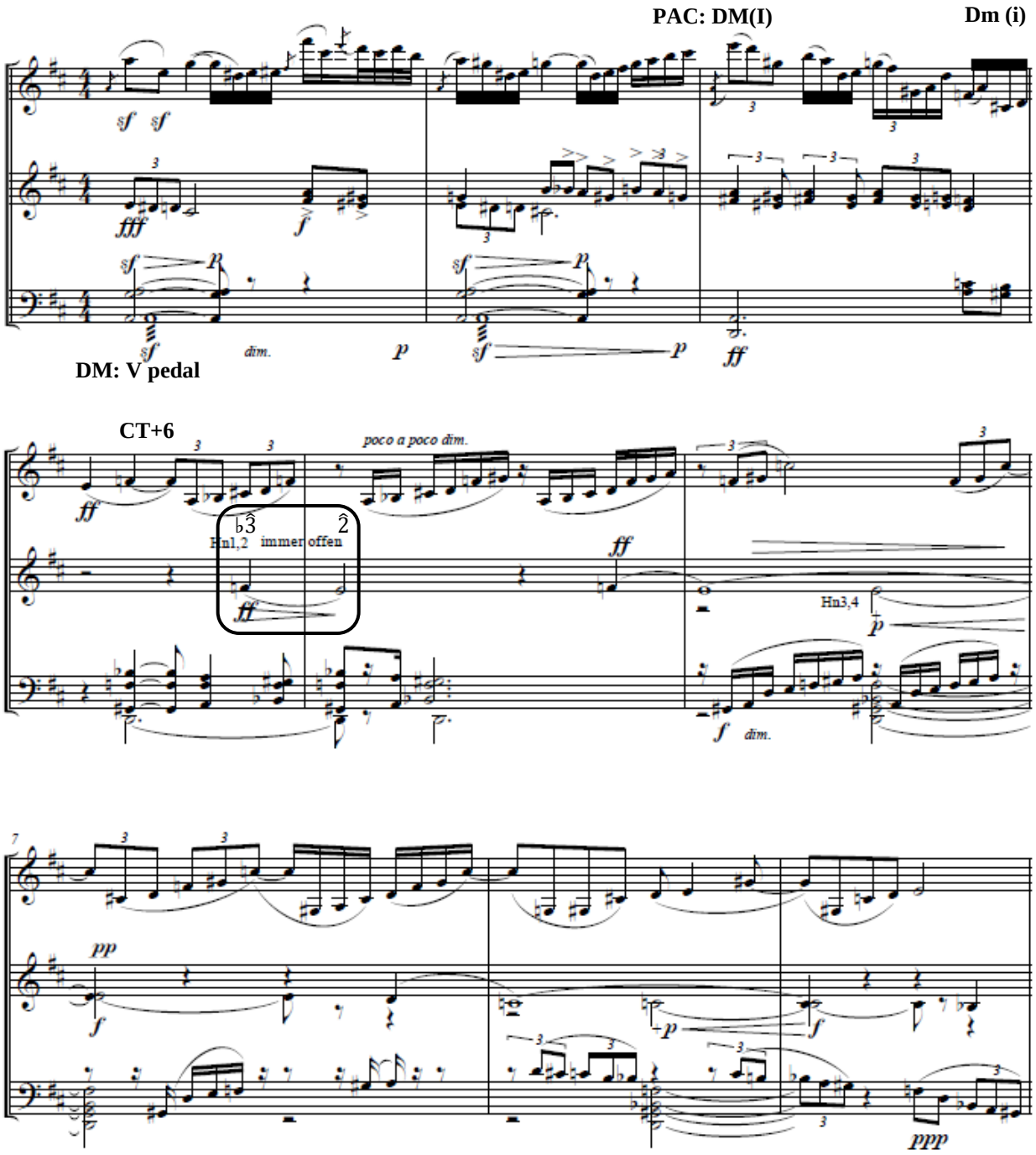
Example 4.6a shows the primary motive in this movement performed by horns 1 and 2 at Figure 13 in the first movement of Mahler's Ninth Symphony. The interval in question is the integration that takes place the functional base of the tonic triad (i.e., root of the D Major triad) played by the tuba and the second note of the horn motive (this relation is shown with an arrow in Example 4.6a). This is one of the most expressively potent pair of notes in the entire



Example 4.6a. Mahler, Symphony no. 9, first movement, Figure 13 (reduction)



Example 4.6b. Mahler, Symphony no. 9, first movement, mm. 7-8



Example 4.6c. "Failure" of Breakthrough" in Mahler, Symphony no. 9, first movement

symphony; however, to see why this is and what exactly is being expressed in this figure, we need to treat this interval as a characteristic of a holistic situation that is *responding* to a range of intra- and interopus contextual overtones established in this piece. Examples 4.6b and 4.6c provide the relevant background for understanding this interval in its situated, responsive mode.

The pickup figure in the horn in the first measure of Example 4.6a recalls the main thematic motive in this movement as shown in Example 4.6b. Kofi Agawu describes this $\hat{3}$-$\hat{2}$ gesture, first performed by the second violins, as embodying the "narrative voice" of this movement.[12] He goes on to characterize the general expressive character of this movement as "nostalgic." I completely agree with this expressive character, which is created in part by the "strategic markedness" of this figure on two levels.[13] First, although this figure takes place over a cadential V-I progression and thus helps bring the six-measure introduction (which prolongs the dominant) to a resolution, this "cadential" figure also initiates the "quasi"-presentation phrase of the main theme of this movement. As such, the conventional formal function of the cadence is taken out of its normal context and integrated into the presentation phrase (i.e., as a formal "beginning"). The second, more striking and immediate level of strategic markedness occurs in that scale degrees $\hat{3}$ and $\hat{2}$ are displaced rhythmically from their normal harmonic support (i.e., $\hat{3}$/V and $\hat{2}$/I instead of $\hat{2}$/V and $\hat{1}$/I) and, as a result, the resolution of $\hat{1}$ over tonic harmony remains unfulfilled as a result.[14] The formal and harmonic displacement of the "closing" function

[12] Agawu (2009, 256).
[13] Ibid., 257. The concept of "strategic markedness," which refers to work-specific (as opposed to stylistic) forms of marked oppositions comes from Hatten (1994, 42).
[14] As Agawu (2009, 257) notes, "The sound term $\hat{3}$-$\hat{2}$ is a promise, of course, because it is syntactically incomplete."

of the cadence, and the lack of resolution of this motivic figure thus gives this gesture, following Agawu's interpretation, a sense of longing, or nostalgia.[15]

All these expressive overtones are picked up by the horn gesture at Figure 13, but in a very different musical situation. Whereas the gesture beginning at m. 7 occurred in a very calm and serene environment—given the soft dynamics, use of harps and string pizzicato, over tonic prolongation in the major mode—the tonal, timbral, and formal situation in which the horn gesture occurs is radically alienating. Example 4.6c provides a reduction of the music immediately preceding the Horn gesture at Figure 13 in the score. The music seems to initiate a common device in Mahler's symphonies that Adorno famously described as a "breakthrough" moment, in which a "rupture" appears to "originate from beyond the music's intrinsic movement."[16] In Example 4.6c, the sudden appearance of a dominant pedal in D Major emerges as a breakthrough in the context of the back and forth struggle between D♭ Major and B♭ minor in the section immediately prior to Example 4.6c. The sudden appearance of this dominant pedal signals the imminent arrival of a cadence that is fulfilled in the third measure of this example. However, any comfort granted by the success of this arrival is immediately dissolved with the sudden shift to the parallel minor on beat four of this example, which in turn collapses into an extended prolongation of a functionally ambiguous common-tone German Augmented Sixth chord (CT+6).[17] The texture and dynamic level of this section gradually devolves, and the

[15] Along these lines it is worth mentioning an intertextual resonance in this figure as well. There is a clear resonance of the unresolved $\hat{3}$-$\hat{2}$ figure at the end of "Der Abschied" ("Farewell") in Mahler's *Das Lied von der Erde* on the words "Ewig" ("forever").

[16] Adorno (1992, 5).

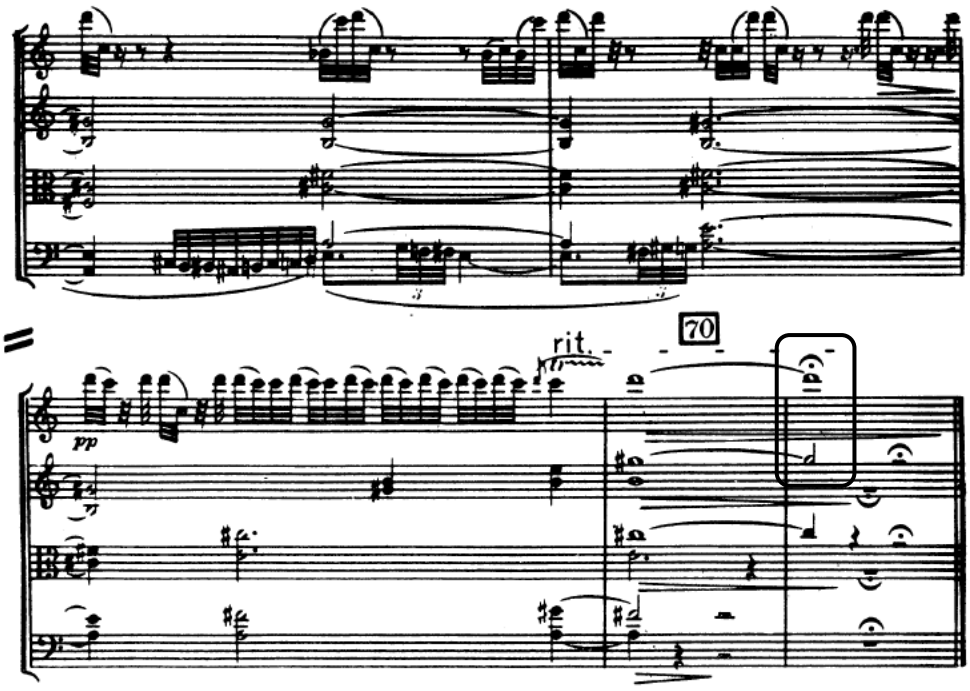
[17] This is in stark contrast to Adorno's initial example of a breakthrough moment from the First Symphony, in which the Breakthrough moment in the first movement leads to the Recapitulation "shrinking" to a "hasty epilogue" due to the overexuberance and triumphant character of this breakthrough (Ibid., 6). The breakthrough here is a failure in so far as it collapses into a functionally ambiguous harmonic environment whose texture comes back down to the single isolated narrative voice of this movement.

narrative voice that returns in m. 5 in the horns is slowly abandoned by the accompanying voices until it is completely isolated at the beginning of Example 4.6a.

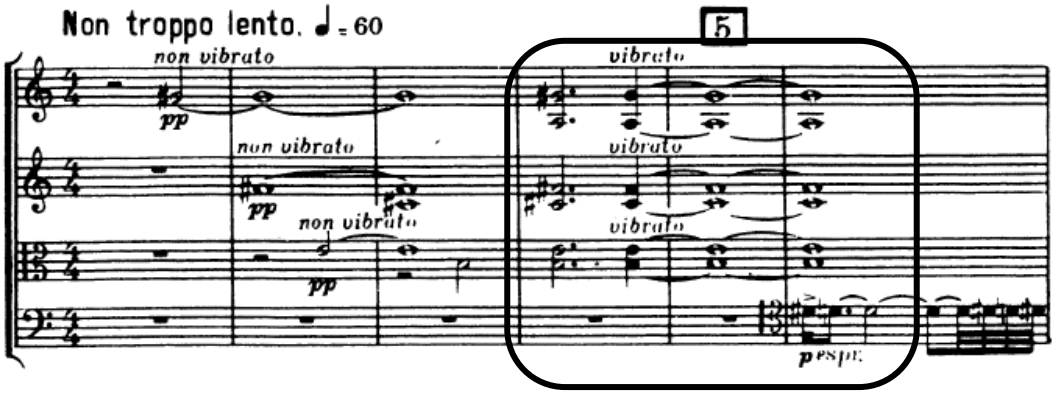
The return of the "narrative voice" of this movement at the beginning of Example 4.6a thus occurs as the culmination of a process of isolation and devolution in the aftermath of the failed breakthrough. And here is where we return to our original interval's "sonic identity." In the context of this figure's formal, harmonic and textural isolation, the tonal residues of the A♭—that is, its contextual overtones as a "longing" scale degree $\hat{2}$ in the major mode—come to sound as *estranged* from both the original environment in which it occurs as well as its current context. As such, when the tuba and trombones return to D Major, the integrative relationship between A♭ and D come to be *organized* in terms of the estranged situation in which the nostalgic, narrative voice now finds itself. That is, "estrangement" acts as the for-the-sake-of-which in terms of which this intervallic relation between notes becomes intelligible as such. Thus, the Horn's "longing" scale degree can be understood/interpreted as *actively resisting* integration to the bass *as* a non-harmonic chromatic neighbor to A on account of the estranged character of this figure in the aftermath of the failed breakthrough.[18] This *active* resistance positions the horn's A♭ as existing in a kind of liminal space *between* the totality of involvements which makes this tone intelligible *as* a nostalgic scale degree and the totality of involvements that make this tone intelligible as a non-harmonic chromatic neighbor. Because of this tone's estranged liminality, the intervallic relation of A♭ and D is dispossessed of its "normal tonal" identity and as a result comes to be legible as an "authentic" tritone.

[18] I have adapted the idea that notes can "resist" integration in the formation of intervals to Peter Kaminsky's (2004) work on polytonality, or, "dual priority" as he prefers to call it, in which the phenomenon occurs to the extent that "the treble can resist assimilation by the bass and retains its own distinct identity and priority" (242).

As another example of the role of expressive factors in making intervals legible as authentic tritones, consider the very different "tonal" environment in which an intervallic relation heard earlier becomes estranged in the third movement of Bartók's Fourth String Quartet (see Example 4.7). Incidentally, the last sounding intervallic relation of this movement, shown in Example 4.7a, is between G♯ and D in Violin I and II, the same pitch-classes as the Mahler example. To understand/interpret the sonic identity of this interval, we need to situate these notes in the context of the opening chord of this movement. The opening of this movement is the gradual, stepwise unfolding of a diatonic tone-cluster, whose concluding pitch in measure 4 leads



Example 4.7a. Bartók, String Quartet No. 4, third movement, mm. 67-71



Example 4.7b. Bartók, String Quartet No. 4, third movement, mm. 1-6

suggests a tonal center of A Major. To state the obvious, however, this is a very different kind of "tonal" sonority than is found in, for example, a Beethoven String Quartet. Rather than congealing together as a harmonic entity with specific functional and voice-leading implications, this sonority embodies a collection of *discrete scale degree qualitie*s. As such, I believe it is much more apt to describe this sonority as a "cluster" of scale degrees rather than some kind of "extension" to tertian harmony (e.g., as some kind of thirteenth chord, or, a combination of two triads).[19] In any case, this sonority is sustained at *pianissimo* for the next ten measures and provides a serene backdrop for the cello's extended solo, which becomes more and more agitated (in terms of dynamic intensity and the range of individual figures in this solo) as the music moves forward.

When this sonority returns at m. 64 (not shown), the registration of this chord changes, but the cluster of scale degrees centered on A remains the same. The music in this section forms

[19] In this respect, I disagree with Amanda Bayley's treatment of the harmony in mm. 1-13 as a "stable" harmonic region that combines an E major with and F♯ minor triad. The descending, *stepwise* melodic character involved in the gradual emergence of this sonority ends on A and includes all of the scale degrees of the A major scale except D, which is the second tone in the cello. See Bayley (2000, 362). The stepwise character of this sonority thus lacks any strong dialogic relation of this passage with tertian harmonies. Other than this small point of disagree, this article offers a very strong interpretive framework for reading this and similar movements in Bartók's oeuvre.

a Coda in Bartók's "Night music" style, and therefore brings about a return of the serene atmosphere of the beginning.[20] Given this expressive situation and formal background, the way in which this sonority begins to dissolve gives rise to an eerie retrospective reinterpretation of this chord, and leaves a very ominous feeling about the "serene" character of this section well after the movement ends.

Starting in m. 70, individual scale degree qualities begin to fade out one degree at a time, beginning with the tonic, moving to $\hat{6}$, until the last interval standing is ro-interval 6. In its original incarnation in m. 5, there really wasn't any strong intervallic *integration* between the D in the solo cello and the *discrete* scale degree quality AM:$\hat{7}$ (i.e., G♯) in Violin I. As such, the D could not confer a meaning *as* tritone as these two notes operate in two distinct auditory streams, and, more importantly, the cello's expressive function stands apart from the calm atmosphere of this cluster of scale degrees. In this respect, the integration of D and G♯ in the final measure, and therefore its sonic identity *as* an interval, is understood/interpreted responsively as an *estrangement* of these notes from their original sonic identity as scale degree qualities within a relatively consonant and serene diatonic collection. In short, the integration of the intervallic relation of these notes *as* a tritone simultaneously leads to these notes being alienated from the original serene diatonic cluster context that gave these notes meaning *as tones*. This alienating form of integration, in turn, leads to this interval being legible as an authentic tritone.

SUMMARY

We often tacitly assume that the atonal interpretation of the tritone, as a distance measured in semitones, is the "purest" and most basic form of this interval, and the basis upon

[20] For an interesting discussion of Bartók's "Night music" style in the context of his use of diatonic collections see Danchenka (1987).

which all other interpretations are made. However, since there is no single "correct" way of representing ro-interval 6, the basis of measuring this interval does not reduce to the stimulus (which varies indefinitely), and, as I argued extensively in the previous section, the meaning of an interval (as musical utterance) always takes shape in a dialogic environment of alien utterances, there is no such thing as a pure interval, untainted by alien understandings about this interval. For this reason, I suggested that we can gain a sense of what it is *to be* an atonal tritone/diminished fifth by exploring tonal and modal situations in which this interval becomes *legible* as an "authentic" tritone, one in which the meaning-conferring process of one note onto another is no longer the byproduct of more basic relationships (e.g., the "appellative consonance" and the $\hat{1}$ to $\sharp\hat{4}\Rightarrow\hat{7}$ tonicization move) and instead integrates "directly" *as* an atonal tritone. I place the word "authentic" in scare-quotes because its authenticity is necessarily defined in response to its "inauthentic" counterpart, *and vice versa*. The tonal/modal situations in which relations between notes become legible as "authentic" tritones/diminished fifths—in all of their expressive, intertextual, and formal detail—are the prototypicality effects of the atonal category.

So, what is it *to be* an atonal tritone/diminished fifth? The simple answer is that there is no single definition that encompasses the range of different prototypicality effects covered in the examples above (and the number of different effects could have been multiplied indefinitely). Rather, because of the heteroglossia that tonal utterances embody, there is no single typology of responses that makes an interval legible as *the* "authentic" tritone/diminished fifth. While one might try to say there *is* something all these "legible" tritones have in common, and that is, they all somehow *negate* expectations about how tones *should* behave and relate to other tones in specific situations, the problem is that only two of these examples actually respond through negation; that is, the Debussy example, which negates the orientation function of the opening

fifth and, especially, the void left by negating expectations in the cadential refrain in Bartók's Ninth Bagatelle. Several of the other examples, such as the Sonny Rollins excerpt respond to alien understandings at the level of musical genre, and do so by *expanding* the conceptual horizon within which an interval—in this case, the "flatted fifth" of the Blues tonal system—is intelligible as such for experience. Furthermore, there are times when the legibility of the "authentic tritone/diminished fifth" has negative expressive connotations (e.g., the end of the third movement of Bartok's Fourth String Quartet [Example 4.7a]), while at other times, because of the expansion of the conceptual field that occurs in these situations, there are clearly positive or affirmational connotations (this is especially the case for the tritone in Messiaen's *Des Canyons* discussed earlier [Example 3.10]). Finally, each of these legible tritones responds to alien understandings at *different levels* and thus the *way* that one note relates to another note (and therefore confers a meaning to this note as a tone) can differ considerably. For example, in the Mahler example, the responsive understanding took place with respect to the narrative voice's placement in an extremely alienating formal, expressive, textural and tonal environment in comparison to the nostalgic environment of the opening. This repositioning of the narrative voice gave rise to an *active resistance and liminal quality* with respect to the horn's second tone in relation to the Tuba's tonic. This contrasts with the "authentic" ♯4 tritone in Mussorgsky (Example 4.2) which responds at a much broader *stylistic level* (i.e., the expectation that this note, especially as found in the bass, is always reinterpreted as the $\hat{7}$ of a secondary dominant). In short then, all these distinct prototypicality effects lead to the idea that there are as many "atonal" tritones as there are ways of responding to alien understandings of the situations and totality of involvements that make these intervals intelligible as such.

CONCLUSION

Theories of chord quality, from informal models that use interval vectors of set-classes as an index of chord quality to highly formal ones such as those of Ian Quinn centered on qualitative genera, have often taken the universe of twelve pitch-classes and the interval measured in semitones as the starting point of their analyses. Such models assume that the interval is an *absolute unit* measured in semitones that remains unchanged in its aggregation into chords, set-types, and larger genera of set-types. However, I argue that it is misleading to use the concept of an absolute interval as the starting point for analysis. Instead, I view intervals themselves as highly complex creatures that are very particular and inextricable from the involved situations in which they become intelligible as such. And if this is the case for intervals, then how much more is it so for larger harmonic and melodic configurations in the twentieth century. There is thus no single absolute, neutral or correct way of representing pitch-class set [3,4,9], set-class (016), or qualitative genus F(12,2). This is not to say that the intuitions behind the construction of these formal systems—e.g., that we sometimes hear chords in atonal music as "somewhat whole-tonish," or "more or less dissonant" based upon the distance of the chord to the maximally compact set-classes—are not valid. In fact, within limits, these models offer important insights into twentieth-century western classical music. However, because there is no single "correct" way of understanding/interpreting intervals, and because the situated totality of involvements serves as the condition of the possibility of these intervals having meaning for experience, I do give priority to the situated modes of being of intervals and assert that it is the highly particular and involved understanding of intervals that makes possible the understanding/interpretation of the more formal and generalized models. In other words, as I

argued in Chapter 2, treating pitch structures as an intrinsic property of an autonomous parameter described at the neutral level necessarily leads to an amodal understanding of pitch relations that is incapable of distinguishing between what it is *to be* a *musical* experience from a *non-musical* experience of intervals, and to this extent leads to an *epiphenomenal* account of the modes of being of musical intervals. While an approach centered on the involved and situated modes of being of intervals thus does not promote generalized models of interval experience, I would argue that this approach is much more responsive to the expressive potency and deep meanings of tone presence in the twentieth century, and thus offers a richer interpretive framework for the analysis of twentieth-century music.

Chapter Five

Musical Meaning and the Horizons of Tone Presence: Estrangement as Musical Topic in Twentieth-Century Music

Each part arouses the expectation of more than it contains, and this elementary perception is therefore already charged with a *meaning*…The perceptual 'something' is always in the middle of something else, it always forms part of a 'field.' A really homogeneous area offering *nothing to be* cannot be given to *any perception*.[1]

Emotion is enactment, not a representation in the mind. It is a way of *being-in-the-world*, not a way of thinking about the world.[2]

INTRODUCTION

In moving from a traditional conception of intervals that emphasizes their distance (and thus reduces to a discrete quantity) toward an understanding of intervals (and pitch relations in general) as a *qualitative* process by which one note integrates with another in the formation of meaningful tones, I argued that the *way* notes integrate are part and parcel of this interval and resulting tone's sounding presence. Additionally, I argued that what is often considered music's "extramusical" meaning, such as the feeling of estrangement identified in the first movement of Mahler's Ninth Symphony and the third movement of Bartok's Fourth String Quartet, is not an associated property, but a constitutive dimension of the sonic identity of musical tone. The purpose of this chapter is to flesh this latter claim out in detail by reevaluating semiotic approaches to musical meaning—perhaps, the dominant paradigm—and offering an alternative framework grounded in the figure-ground metaphor discussed in the previous chapters.

Since the semiotic approach to musical meaning is an enormous one featuring a great diversity of perspectives and methodological orientations, I will focus my discussion of the

[1] Merleau-Ponty (2002, 4), emphasis in original.
[2] Becker (2010, 149), emphasis in original.

relation between tone presence and expression using topic theory as a case study. I begin by briefly examining some of the assumptions behind semiotic approaches to musical meaning since such approaches, as valuable as they continue to be, are responsible in large part for maintaining the opposition between musical structure and expressive meaning. Following an overview and critique of certain assumptions of semiotic approaches to musical meaning and expression, I suggest an alternative *holistic* framework that blurs the line between signifier and signified in music. To accomplish this, the core of this chapter, however, is an extended case study that critiques basic assumptions of topic theory while proposing a new topic (or, better, topical *process*), Estrangement. In particular, I show *how* reorienting topic theory away from a view of topics as nouns toward a view of topics as verbs, or, processes by which musical experience is "topicalized," allows us to see how specific modernist ideologies play a constitutive role in tone presence (and pitch organization more generally) in twentieth-century music.

MUSICAL MEANING BETWEEN SIGN AND CONVENTION

ASSUMPTIONS OF SEMIOTIC APPROACHES TO MUSICAL MEANING

While the study of the meanings and ideologies of music (or, "musicking") as a cultural (i.e., historical) practice is no longer called into question in North American music theory and musicology, the *ways* that this meaning comes to be embodied in experience and their relation to the so-called musical parameters (primary and secondary) have been remarkably resistant to analysis. This has led some to posit a problematic opposition between "drastic," or, ineffable dimensions of experience, which are associated with performance, and "gnostic" (or, hermeneutic) forms of knowledge associated with the work concept and its attendant ideology of

Werketreue.[3] This opposition suggests that, as Lawrence Kramer notes, "the rise of performance entails the fall of meaning" and that "music escapes all our conceptions of it."[4] Of course, Lawrence Kramer goes on to scrutinize the notion of music's ineffability all in the context of a performative account of musical hermeneutics. I raise this opposition here because it suggests that, despite the diversity of approaches to the subject of musical meaning, the treatment of musical meaning as an *entity* that is *represented* in music *for* a subject—still dominates thinking (pro or con) about *how* music *has* meaning. The dominant paradigm for treating music as an entity is musical semiotics and the "entity" that serves as the centerpiece of such studies is the sign. As such, in what follows, I briefly survey the assumptions that lie behind semiotic approaches to musical meaning as these assumptions reveal much about prevalent views of the relation of musical features and musical meaning. There is one important caveat I should make before exploring these assumptions. As Raymond Monelle has noted, "Music semiotics was born in the fifties and sixties and has taken many forms since then. A survey of the subject will reveal not a single developing discipline but a collection of varied and unrelated programmes."[5] Given the extreme diversity of approaches subsumed under the label of semiotics, I narrow my discussion to those assumptions that relate to semiotic approaches to topic theory. With that in mind, I begin my discussion with an overview of the musical sign that, as I mentioned, functions as the centerpiece of the semiotic approach to musical meaning.

Figure 5.1 shows the basic musical-meaning-as-sign paradigm that is especially prominent in a wide range of semiotic approaches to topic theory. Figure 5.1 is modeled after the

[3] For the classic statement on the opposition between drastic and "gnostic" forms of knowing music, see Abbate (2004). For a critique of concepts of music's ineffability, see, for example, Kramer (2016, 45-64). The ideology of *Werketreue* concerns the "ideal of fidelity" to the work. See Goehr (1992, 243-285) for a discussion of *Werketreue*.
[4] Kramer (2016, 45).
[5] Monelle (1992, 27).

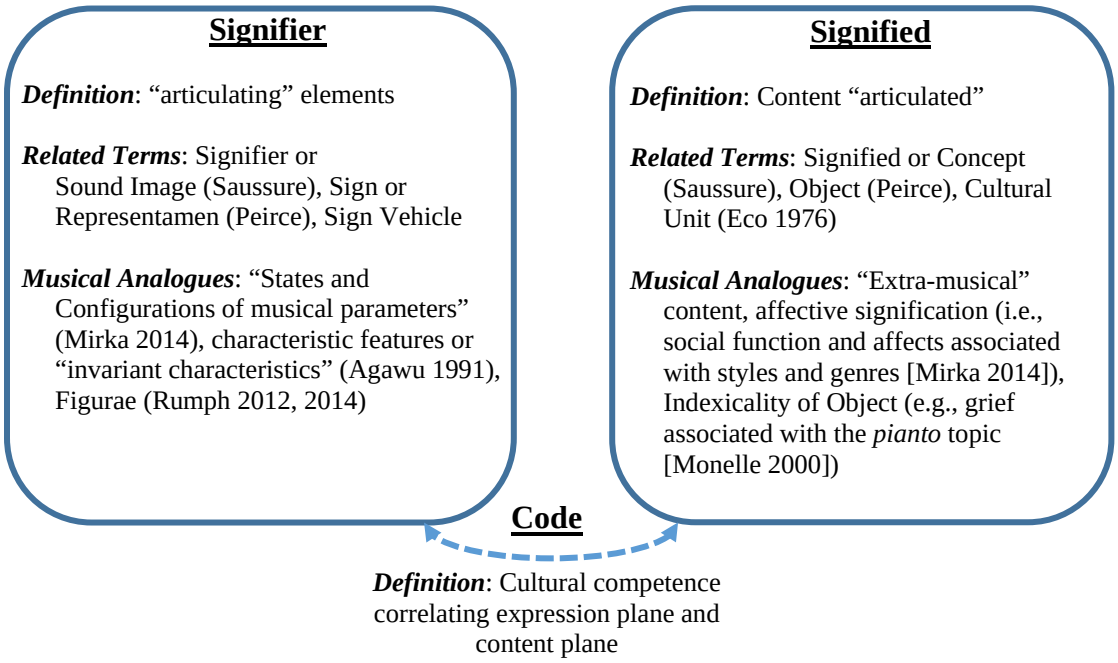


Figure 5.1. Musical Meaning-as-Sign Paradigm

Saussurian bipartite paradigm of a linguistic sign as an "associative bond" between a signifier, or, "sound image" (e.g., "arbre" in French and "tree" in English) and signified, or concept (e.g., the mental representation of a *tree*). Crucially, the connection between a sound image and its associated concept is *arbitrary* or conventional rather than necessary, since, as the linguistic comparison between, for example, French and English words suggest, any other sound image would have worked just as well to express the concept of a tree. Similarly with musical topics, the signifier, represented by musical features (or, the "states and configurations of musical parameters" as Danuta Mirka puts it), becomes associated *by convention* with so-called "extramusical" meanings such as social functions (e.g., the formal and processional function of marches) or cultural affects such as grief associated with the "tearful" representations of the pianto topic. Since the relation between signifier and signified in both the musical and linguistic

sign is arbitrary, it is only by virtue of a cultural competence (represented by the code) that one is capable of finding meaning in the sounds of music and language. Taking the sign as the starting point to approaches to meaning *in* music, the basic question becomes how historically and culturally constituted forms of meaning, treated as an entity, are *represented in* music *for* a listening subject (who¸ as a subject in poststructuralist thought, is presumably culturally constituted). Thus, Raymond Monelle comparing the work of semiologists to other famous approaches to musical meaning writes, "Like Deryck Cooke, the semiologist is interested in the distinct meaningful fragments which can be found in music, but unlike him without any wish to interpret them."[6]

There are two implicit assumptions that fall out of this representational framework for studying musical meaning in semiotics (though, not without reason) that I want to pursue here. The first assumption is that meaning arises in music through a correlation, or "mapping," between two terms, a signifier and signified, or, in Hatten's sophisticated account, between expressive oppositions introduced by a culture (e.g., tragic/nontragic) and musical ones (minor/major).[7] (Peircian semiotics introduces a third term, the interpretant, which I discuss below, but this can in general be subsumed within the perhaps unconscious code, or cultural competence, that allows an individual to "bond" signifier and signified together in the Saussurian framework.) The analytical fallout of this assumption is that, as Kofi Agawu notes, "The point of a semiotic analysis…is to provide an account of a piece, in which the domains of expression (extroversive semiosis) are integrated with those of structure (introversive semiosis)."[8]

[6] Monelle (1992, 24).
[7] Hatten (1994, 38).
[8] Agawu (1991, 24).

The second assumption, which is especially pertinent to topic theory, is that because the representation of meaning in music requires a correlational competency, the *experience* of meaning is often understood as a process of matching individual tokens to types (again, perhaps in an unconscious manner). Taking topic theory as an example, one "experiences" a topic by first recognizing that the unique musical features (or, "states and configurations of musical parameters"[9]) of the tokens *match* the "invariant characteristics" of the type "whose presence alone," Agawu says, "guarantees the topic's identity."[10] Since the expressive meaning of a topic resides in a correlation at the level of a stylistic type, and since the experience of topics (and expressive meaning more generally) occurs through the interpretation of tokens as instances of types only by means of their musical features (i.e., the signifier), there is a clear priority of the musical signifier in descriptions of the experience of musical meaning. In fact, because the expressive dimensions of topics have no syntax, Agawu states that musical topics are ultimately "dependent signs."[11] The musical signifier is thus a transparent primitive of experience that requires no explanation.

But what is a musical signifier for experience? Well, the simple answer would seem to be musical features or, better, the "music itself." The problem with this answer is that musical features, such as the intervals I discussed in Chapter 3, are not at all simple. As such, before exploring an alternative framework for discussing the expressive behavior of musical tones, it is important to review what is problematic about treating musical features as simple, irreducible elements; that is, as "primitives" of semiotic systems.

[9] Mirka (2014, 17).
[10] Agawu (1991, 35).
[11] Ibid., 20.

WHAT IS A MUSICAL SIGNIFIER?

Consider the following chord in Figure 5.2. What is this? Well, you might say it's just a *CMm7* chord. However, someone who has not learned the wide range of concepts and aural significance associated with a CMm7 chord, or seventh chords in general, would probably hear it simply as a *chord*—meaning, they are not making a categorical distinction between varieties of triads and seventh chords. Or, maybe the chord shows up for experience as a V^7 chord**.** Again, maybe a jazz musician hears this chord as the more abstract harmony that guides the interaction

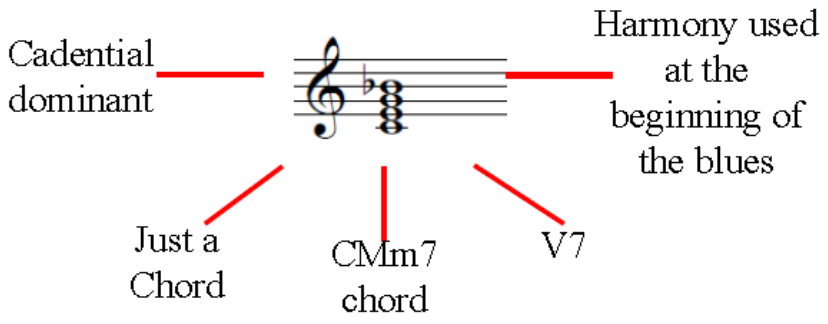


Figure 5.2. Different Experiences (Interpretations) of the "Same" Sign

of musicians at the beginning of the blues, with its differing implications of how the seventh of the chord should or shouldn't "behave" (e.g., resolve down to a consonance). Or, perhaps we might experience this single chord in a highly specific manner as a cadential dominant with its necessary implications of dissonance treatment and a teleological understanding of phrase "closure" in much Western classical music. To paraphrase David Huron, then, there is no "right" way to describe or represent a pressure signal.[12]

[12] Huron (2006, 101).

Perhaps, the skeptical reader might respond and say, “While it is true this chord can be named and experienced in a potentially indefinite number of ways, aren’t these all just *subjective interpretations* of the *same* objective chord? We can just say they all represent different perspectives of the *objective* and ‘perspectiveless’ set-class (0258).” But, in what does this “sameness” *inhere*? One might answer “the stimulus itself,” but as is well-known in music cognition, pitch perception is categorical.[13] Consider the following example (Figure 5.3).

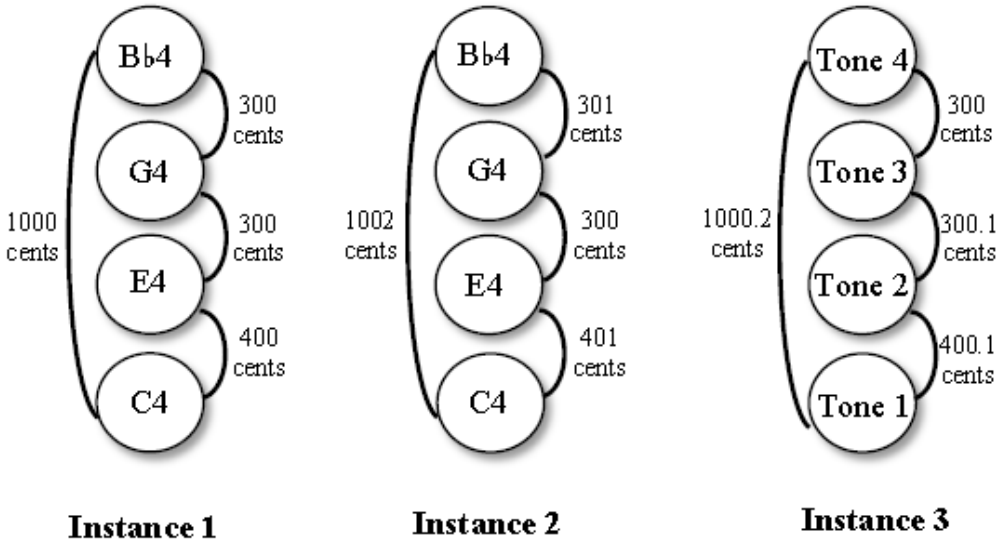


Figure 5.3. Three Instances of the “Same” Chord

Perhaps the intervallic distance between the tones of our chord is performed with an interval of 400 cents between the lowest two tones. However, what if we change two of the intervals by one cent each. Or if that is too much, .1 cents. And, of course, we can alter this chord indefinitely, not to mention change the timbre, melodic/harmonic context, register, and so forth. In short, when it

[13] Though introduced in the context of rhythm, Justin London (2012, 123) offers a very succinct and cogent explanation of categorical perception: “categorical determinations are not simply ‘stimulus driven’ but a product of the interaction between stimulus and listener, a listener who has learned to categorize certain durations in a certain context in a particular way.”

comes to musical experience there is no sense in which a V^7 chord, to take our example mentioned earlier, is *identical* to "the harmony at the beginning of the blues." These two signifiers are fundamentally different perceptual objects *for experience*. Furthermore, what applies to pitch, also applies to rhythm, texture, and all the other features that are identified as the musical signifiers of topics.

There are two main points to be taken from my discussion of the musical signifier. First, musical features (or, more complex "configurations of musical parameters") can themselves be seen as cultural units. And, secondly, as I argued in Chapter 3, what it is for something *to be* a musical feature is just the *conditions in which these features* become *intelligible as such* for experience. This latter point is crucial. As I will argue in the case study, because most semiotic accounts of topic theory ignore the experiential basis of musical signifiers, instead choosing to relegate such issues to *parole* (that is, speech, or more generally, sign *use*), they miss out on the more basic question of what it even is to *be* a signifier. And, as I noted earlier, because they relegate such questions to matters of speech or performance, they also tend to presuppose the false opposition between language (and, more broadly, social) *structure* and *use* that has come under intense scrutiny in a wide range of philosophy, linguistics, and social theory in the twentieth century. However, before I proceed to my case study, it is worth pursuing the idea of a musical signifier as itself a cultural unit so that we can begin to remove the transparency of musical features for experience and thus the priority of what Stephen Rumph identifies as the "nonsignifying" elements of the expressive meaning of musical topics. In the following section, I reinterpret the interval (i.e., musical signifier) of the "authentic" atonal tritone discussed in Chapter 4 as a cultural unit, paying special attention to the more general concept of the interpretant in semiotic theories.

AUTHENTIC ATONAL TRITONE AS A CULTURAL UNIT

One of the initial motivations for introducing the cultural unit in semiotic investigations is to really emphasize that the meaning of a sign (including linguistic signs as basic as "horse") is not a specific referent in the world, but a whole cultural complex of significations that may or may not (as in fictive entities such as unicorns) be *about* entities in the world.[14] As Monelle describes it, a cultural unit is a "complex, wide branching sememe."[15] Simplifying quite a bit, we can think of a *sememe* as an indefinite network of signs interpreting other signs. This definition introduces Peirce's notion of the interpretant which is an extremely rich concept that complexifies the simple bipartite relation of Saussurian sign and adds depth to our understanding to musical signifiers. As such, it is important to get some sense of how the interpretant functions in the semiotic process before we can examine the cultural unit of the "authentic atonal tritone."[16]

In semiotic accounts of topic theory, much attention is given to three basic kinds of sign-object relations that the interpretant effects; namely, iconic, indexical, and symbolic interpretants. However, in what follows I am interested in the broader meaning and role of the intepretant in the semiotic process rather than its specific varieties. As Monelle summarizes it, the interpretant is a thought (or behavior) in the mind of a user that unites a sign (or signifier) to its object (or signified).[17] Three definitions from Eco's *A Theory of Semiotics* offer concrete examples of the interpretant in action.[18] First, an interpretant is a sign vehicle from another

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[14] See Monelle (2006, 20-22) for a discussion of the "chimera of referentialism."
[15] Monelle (2006, 26).
[16] For an excellent overview of Peircian semiotics and its application to music, see Turino (1999).
[17] Monelle (2006), 24.
[18] Eco (1979, 70).

system, for example when we draw a picture of a *dog* to explain the meaning of the verbal signifier "dog," the picture serves as an interpretant of the linguistic signifier. An interpretant can also be described as an emotive association (or connotation) such as the association of dogs with loyalty (e.g., "man's best friend"). Finally, an interpretant may be seen as a pointing gesture; that is, "everything that is like "that" (accompanied by pointing gesture)." All of these means of uniting sign and object are what allow signs as signifier-signified pairings to be understood. Furthermore, since the interpretant is itself understood to be a sign, which takes on its own object and interpretant relation, the *process* of semiosis can continue indefinitely. Thus, the larger networks of sign-object-interpretant relations that make up a cultural unit can potentially branch out indefinitely, although in practice, these networks branch out only so far as the experiential situation require. With this all too brief and simplified understanding of the interpretant and cultural unit in mind, I now turn to an example of the "authentic atonal tritone" as a cultural unit.

Figure 5.4 provides a visual representation of the indefinite network of interpretants making up the cultural unit of the "authentic atonal tritone" adapting elements of my case study in the previous chapter. Each box represents a sign, with the central sign in the thick purple box labeled "authentic atonal tritone" serving to organize the entire network, and the lines connecting boxes represent the relation of the interpretant (i.e., one sign serving as an interpretant of the other in either direction).[19] To interpret this cultural unit, suppose you are presented with an

[19] The network of signs interpreting other signs is modeled after Michael Klein's visual representation of a code for a traffic light following Eco's description. See Klein (2005, 53). The differences between his model and my own is that: one, his represents an entire code, while my model centers on the cultural unit (which is encompassed by the code); second, my central sign is not based on a cultural opposition (e.g., red/green for the traffic light), but an intervallic quality; and, third, I include "pointing" interpretants (e.g., "Everything that is like 'this'"), indicated in red boxes in my network of interpretants.

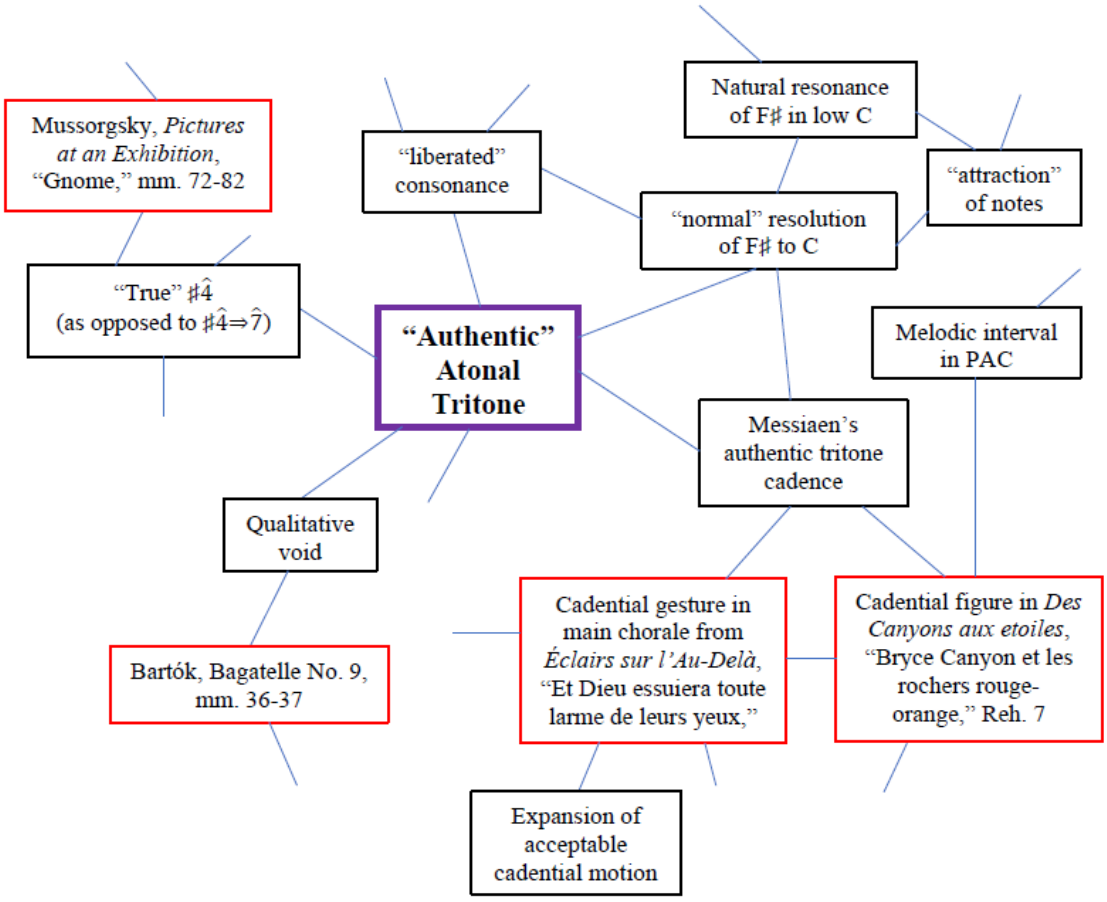

Figure 5.4. "Authentic" Atonal Tritone as Cultural Unit

intervallic object that signifies "authentic atonal tritone." For this intervallic object to signify at all, there must be some effect or behavior in the mind of the sign user to map the sign "authentic atonal tritone" to the object (e.g., a score or actual performance of this interval). One such connotation may be the *feeling* of a "normal" downward "resolution" that connotes the "authentic" atonal tritone (as opposed to the tonal version, which, as I have suggested, does not exist *as such* (e.g., the appellative consonance). Now suppose someone asked you to explain what the *feeling* of "normal resolution" was like and you explained by *playing* (metaphorically "pointing to") the cadential gesture from the main chorale theme in "Et Dieu essuiera toute larme

de leurs yeux" from *Éclairs sur l'Au-Delà*, thus suggesting that the *feeling* of normal resolution consists of all examples that sound like *that* (all other "pointing" interpretants are placed in red boxes). In this case, the performed excerpt functions as an indexical interpretant of the *feeling* of normal resolution, which is itself an interpretant (specifically a connotation) of the sign "authentic atonal tritone." Lastly, suppose someone asked you to explain *how* this excerpt explains the feeling of normal resolution and you defined it (*linguistically*) as Messiaen's expansion of acceptable melodic motion at perfect authentic cadences to include the descending tritone. And, of course, each one of these interpretants has its own series of interpretants that could be expanded indefinitely.

The signifier "authentic atonal tritone" is thus anything but a simple primitive of a semiotic system. As a cultural unit, or indefinite network of interpretants, this signifier "spreads" across several signifying systems including linguistic descriptions, affective feelings, musical examples, and so forth. As such, the cultural unit, like the understanding of language in functionalist linguistics, is *non-autonomous*. Furthermore, what applies to musical intervals applies equally to other so-called "musical features" such as timbre, texture, rhythm, and so forth that are traditionally described as signifiers in semiotic approaches to musical meaning. And, inasmuch as cultural units are traditionally associated with the *signified* of musical signs (especially in topic theory), then my argument could be read as an attempt at inverting traditional understandings of the terms of musical semiotics. However, the argument here is aimed at a critique of the representational framework of musical semiotic accounts of musical meaning in general. In particular, what I find valuable about treating basic "musical features" as cultural units that spread across different "areas of human activity" (i.e., parameters) is the invocation of the interpretant and, as a result, the Peircian emphasis on semiotics as a *process*. And yet, by

reifying the interpretant as just another sign (i.e., a static entity), the cultural unit, with its indefinite network of signs interpreting other signs, still relies on a representational approach to meaning. And the problem with treating the experience of meaning as a representation—i.e., a "matching process" between token and type—is that it presupposes that which it is supposed to explain.

For example, consider the idea that an *experience* of a (e.g., a collection of musical features) represents another thing (e.g., a musical topic) if one thing *resembles* another (e.g., a token representing a type). The problem with this idea is that resemblance is neither necessary nor sufficient. As the philosophers Shaun Gallagher and Dan Zahavi put it, "A forest contains numerous trees that resemble each other, but that does not make one tree represent the other."[20] In this sense, resemblance is not sufficient for explaining representation, but it also clearly is not necessary as the principle of the arbitrariness of linguistic signs in semiotics shows (e.g., the sound image "tree" in English represents the concept or object tree without in anyway representing it). As Gallagher and Zahavi also note, if we attempt to explain the notion of representation as a "causal connection of the right kind," that just begs the question since *any number* of causal connections, either distant or proximal, can be invoked to explain the representation.[21]

More relevant than this phenomenological critique of the concept of representation, however, is the fact that the specific kinds of "effects" and "behaviors" that interpretants embody (i.e., connotations, definitions using sign vehicles from different systems [e.g., pictures for

[20] Gallagher and Zahavi (2008, 112).
[21] Ibid. This critique of experience *as* representation is not, however, a critique of the representational mode of music in general. To the contrary our representations of musical meaning (e.g., when linguistic signs function as interpretants of our emotional experience and vice versa) play a major role in our understanding and experience music. Rather, the argument simply suggests in a Heideggerian vein that the representational mode of understanding/interpretation is not necessarily the most basic form of understanding/interpretation.

words], etc.) do not factor into the equation the responsive understanding and our concerned involvement with musical utterances that serves as the condition of intelligibility for the individualization of utterances (including single words and intervals) in the "elastic environment of alien utterances" that these words are formed in (see Chapter 2). For example, consider the interpretant "'true' $\sharp\hat{4}$" of the "authentic atonal tritone" in Figure 5.4. Clearly the idea of *true* $\sharp\hat{4}$ presupposes the possibility of an alternative conception of this "same" scale degree quality as well as a definite *stance* (i.e., an *interested* investment, or concerned involvement) taken toward these alternatives. Following Bakhtin then, each utterance (including the interpretants that correlate sign to object) is a link in the chain of speech communion. Our response and anticipation of a response structures our understanding of how interpretants connect signifiers and signifieds.

Yet, even as the representational mode of understanding musical meaning reflected in the concept of the cultural unit is problematic for all the reasons mentioned, I do not want to throw the baby out with the bathwater. As such, in what follows I want to briefly retool the concept of the cultural unit and the indefinite network of interpretants it embodies along the lines of the figure-ground relation of the totality of involvements in order to show how the culturally and historically contingent forms of expression are a constitutive dimension of musical tone. I do so by adapting ideas from the philosopher Jenefer Robinson's treatment of emotional *processes* as ways that we can come to *understand* art.

RETOOLING THE CULTURAL UNIT AS A BACKGROUND OF INVOLVEMENTS

In the previous chapter, I argued that intervallic integration of notes and the tone qualities that form as a result are only ever an *aspect* or *characteristic* of the holistic situations they

participate in (just as "being too heavy for this job" is a characteristic, and *not* a predicable property, of the specific situation in which an "inappropriate" hammer is used). In turn, I argued that the condition of intelligibility of these intervals and the situations they characterize are made possible by the totality of involvements in these situations. Furthermore, I argued, following the dialogic model of linguistic understanding, this is a totality of involvements that is fundamentally *responsive*. If we combine this idea with the treatment of intervals as cultural units—that is, as an indefinite network of interpretants, in which signs from various systems (linguistic, affective, etc.) interpret other signs in the *process* of relating sign and object—the one simple adaptation that is necessary to combine these ideas is to move away from a *tripartite* relation *between* signs in the semiotic model of the cultural unit to a holistic model in which one sign (e.g., "authentic atonal tritone") is an emergent characteristic (i.e., figure) against a totality of involvements (i.e., background) in the situation in which this sign occurs. In doing so, I aim to move away from a conception of the cultural unit as a social entity toward a view of the cultural unit as a kind of *social praxis*. To help illustrate this shift, let me turn briefly to some analogous ideas about musical emotions in the work of Jenefer Robinson.

To cut a long story short, rather than simply treat emotions as representational entities that are *associated* with musical structure (in a manner similar to semiotic understandings of the sign), or by our expectations engendered by cultural understandings of musical structure, Robinson treats emotions as *processes*.[22] In her extended magnum opus on the subject, *Deeper than Reason: Emotion and its Role in Literature, Music, and Art*, Robinson describes three dimensions of these emotional processes. The three dimensions are: 1) "an initial affective

[22] An example of this associational approach in music psychology that posits seven information-processing mechanisms, at varying degrees away from the "music itself," that account for the "arousal" of emotions in music, see Juslin, Liljeström, Västfjäll, and Lundqvist (2010). For the classic account of musical expectations, see Huron (2006).

appraisal of the situation that focuses attention on its significance to the organism and causes"; 2) "physiological responses of various sorts—especially ANS [autonomic nervous system] activity and changes in the facial musculature—and motor responses, which get the organism dealing with the situation as very broadly appraised by the affective appraisal, and which gives way to; 3) a further, more discriminating cognitive appraisal or monitoring of the situation."[23] In summary, there is at first a relatively unconscious, visceral reaction that delimits the elements and scope of a situation (e.g., a venomous snake slithers out of the bushes signaling that a potentially dangerous situation is imminent), an appropriate bodily set responding to this situation and without which there would be no recognizable emotion such as "fear, anxiety, joy, etc.," and finally there is a relatively more conscious surmising of one's situation and change of bodily disposition to this situation as it is ongoing as way of determining what is an appropriate response to these changes. Crucially, in my interpretation of Robinson's work all three elements are *aspects* of an *holistic* emotional process that in many, though not necessarily all, cases functions as the *ground* of our understanding of art. To see why, first consider the example of the more complex emotion of feeling anxiety about waking up late on the day of your final exam.

Clearly, the emotion of "anxiety of waking up late for an exam" can only be experienced in a culture has the institutions in place as well as the system of punishment and promises of, perhaps, unrealistic rewards (e.g., educational, symbolic, and economic capital[24]) that accompany the successful completion of exams. As such, emotional processes are simultaneously bodily, cognitive, and cultural evaluations of situations in which one finds oneself. Given this point, suppose we transposed the question "*what* are musical emotions" and asked "*where* are musical emotions"—in the social circumstances (e.g., cultural units) that

[23] Robinson (2005, 59).
[24] These are terms most famously developed in Bourdieu (1984).

provide the situations in which we hear music? In the transformation of our bodily set (e.g., the tensing of our facial muscles, the increase in heart rate, etc.)? In our current culture? The "music itself"?[25] And here is where I depart somewhat from Robinson's understanding of the role of emotional processes in art. The answer to *where* an emotion such as anxiety of waking up late for an exam lies is simultaneously everywhere and nowhere in particular as the emotion is irreducible to any one of its aspects. Emotions, especially complex emotions, are neither simply perceptual, simply bodily, simply cognitive, nor simply social, each aspect makes the other *mutually intelligible*.

As an example, consider that, although there is an initial visceral reaction (an unconscious awareness) that cues us to the relevancy of aspects of the situations, which would suggest the primacy of the perceptual dimension, it is clear in Robinson's account that this unconscious "affective" appraisal is an appraisal *of* something (i.e., the situation). Thus, in some sense, it is the broader situation (e.g., being late for an exam) that makes the affective appraisal an example of the appraisal. On the other hand, just as the physical stimulus of intervals varies indefinitely, so too do the situations in which emotions occur. For example, what counts as the situation of being late? One minute? 30 seconds? 1 second? And what degree of consequence is necessary to produce the initial awareness? A final exam? A midterm? Quiz? A test worth 30% of one's final grade? 30.1%? As such, what counts as the situation of being late is made intelligible by the "affective appraisal." There is thus a mutual intelligibility of situation and appraisal with neither reducing to the other. And what can be said of the affective appraisal and (social) situation can be said of the relation between the body and mind, body and situation, and so forth. In other words, the body is cognitive, the mind is embodied, and the social lies between

[25] For an excellent succinct overview of the question "What are emotions," see Robinson and Hatten (2012, 72-74).

what Bourdieu famously theorized as the social field (structured by symbolic capital) and habitus (or, durable dispositions) of embodied practice.[26] With this in mind, I return to the cultural unit to suggest that there is a similar mutual intelligibility between tone presence and cultural unit, but that the way this operates is as figure to ground.

With the caveat that no visual representation is fully capable of expressing the complexity of the relation between musical tone as figure to the ground of involvements, Figure 5.5 offers a reinterpretation of the cultural unit in Figure 5.4. The first difference is that the central *sign* in Figure 5.5 is substituted by a concrete musical *situation*, organized by a totality of involvements, that acts the figure of an understanding/interpretation (here, exemplified by the last interval of the cadential refrain from Bartók's Ninth Bagatelle [Example 4.3a]). The box is red to illustrate this shift to a musical situation. Secondly, the signs in Figure 5.4 are understood as *responses* to alien utterances and the lines connecting boxes symbolize that to which one box is responding. Finally, the musical situation is foregrounded in green against the tan *background* of responses that acts as the cultural unit to help illustrate the figure-ground relation between cultural unit and musical situation. Clearly, this isn't the optimal means of visually representing this relation, but the point is to incorporate the gestalt metaphor that the *part* represented by the figure is only intelligible against the whole of the background. This figure-ground relation spreads across different modalities of experience (linguistic, affective, perceptual, etc.) just as musical emotions spread across the bodily, cognitive, and social dimensions of experience.

[26] See Bourdieu (1977) and (1984). For a very compelling argument for paying more attention to the habitus of musical emotions in cross-cultural context, see Becker (2010).

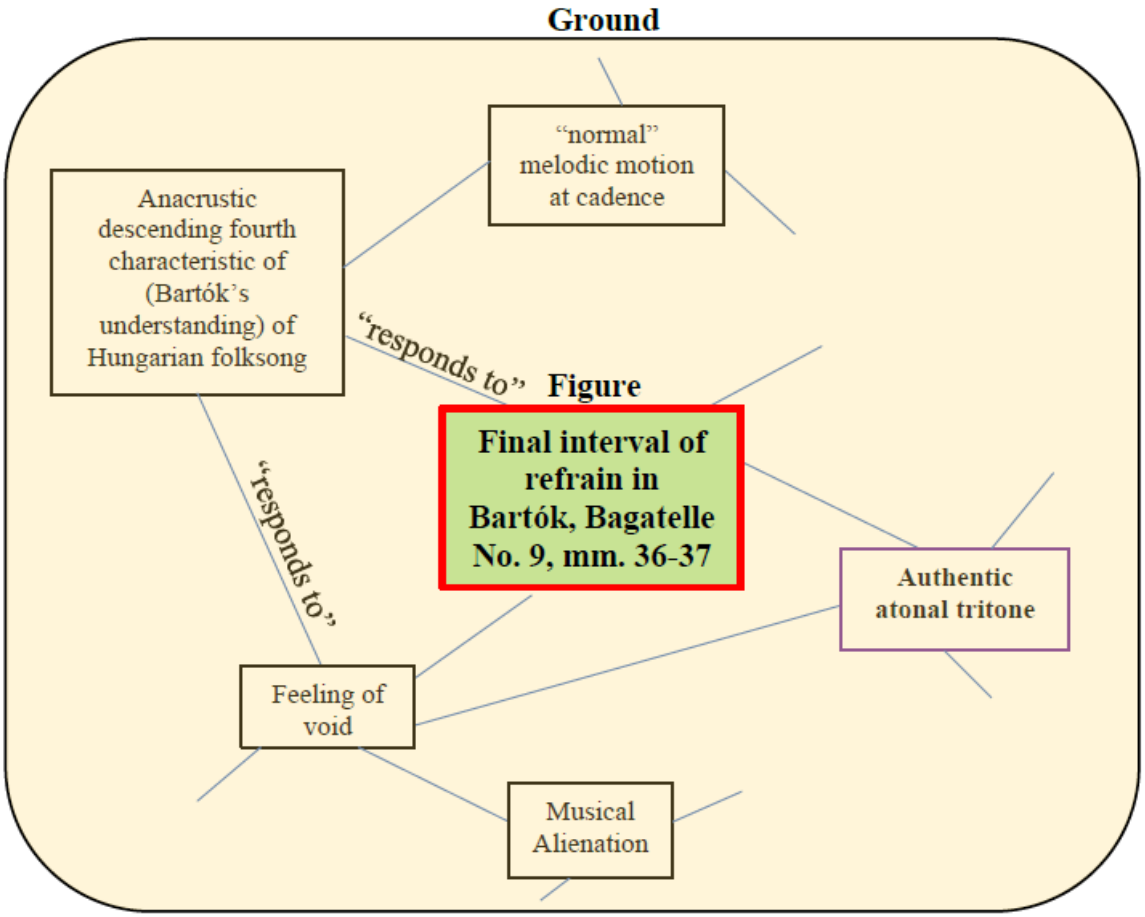

Figure 5.5. Reinterpretation of the Cultural Unit as a Figure-Ground Relation

Having moved away from a semiotic conception of the relation between tone presence and expressive meaning as that *between* signifier (e.g., musical features) and signified (e.g., cultural unit) to a holistic figure-ground relation that spreads across different experiential modalities (or, "areas of human activity"), I now turn to an extended case study that focuses on a specific example of how a historically grounded mode of expression can function as the ground of tone presence in modernist music, the topic of estrangement.

CASE STUDY: ESTRANGEMENT AS MODERNIST MUSICAL TOPIC

PRELUDE: LISTENING TO A MARCH VS. HEARING THE "MARCHNESS" OF A MARCH

As a prelude to my discussion of the estrangement topic, let me begin with a concrete example of what I take to be a typical instance of a musical topic. As there are many different understandings of the term in the literature, it is important to situate my approach in what I consider to be as close of a consensus view of recent semiotic approaches to topic theory, with the realization that ultimately no complete consensus is possible. This overview will then serve as a point of departure to the very different approach that I take in the following section.

To begin, imagine you are at a concert listening to the President's Own Marine Band performing Sousa's "Washington Post March." In such a situation, you may focus on the nuances of the performance, the rhythmic feel of the syncopations in the main tune, or, if you have heard the piece before, you might be struck by some contrapuntal detail you never noticed before. In any case, what is NOT foregrounded in your experience of the piece is its status *as* a march. Now contrast this with an example from Mahler. Suppose you are listening to the First movement of the Third Symphony. After a rather bombastic unison introduction in the horns the energy dissipates until it gives way to a triplet figure in the trombones and percussion, which emphasizes dotted rhythms in duple meter, all over a static minor tonic harmony. All these features work together to evoke a march. In this case, however, it is likely the march, or, more specifically funeral march, *as* march that is brought to the forefront of one's musical attention. In other words, if you will allow me a neologism, it is the "marchness" of the march, with all its connotations of the military, soldiers, processions, etc. which is at the experiential core of this music. It is in this latter case that we have a topic. And it is for this reason that Danuta Mirka

aptly describes topics as "musical styles and genres taken out of their proper context and used in another one."[27]

There are a few points to make about this brief illustration of topics. First, since the publication of Kofi Agawu's *Playing with Signs*, a topic has been construed as a sign.[28] Additionally, what I briefly described as the "marchness" of a topic is what Monelle describes as the indexicality of the object, which is an essential feature of a musical topic for Monelle.[29] Furthermore, a march is a topic *only* to the extent the indexicality of the object is automatically invoked and this occurs when the indexicality of the object is *conventionalized*. Hence, Monelle's remark that, "The topic is essentially a symbol, its iconic or indexical features governed by convention and thus by rule."[30]

To illustrate these points, let me return to the Mahler example using a model of musical topics illustrated in Figure 5.6. When listening to the Mahler, certain musical features, such as brass and percussion timbres, duple meter, and static harmonies, cue a culturally competent listener to a march by means of its resemblance to markers of the genre. This evocation of the genre, when used out of its proper context, *indexes* various affective significations and social functions associated with the genre. Stepping back from one's individual experience of the music, this process congeals into a topic when the signifier becomes *correlated* by convention to its ultimate signification.

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[27] Mirka (2014, 2).
[28] Agawu (1991). As Agawu originally formulated it, a topic was seen as a bipartite, Saussurian sign (the union of *signifier* and *signified*), whereas, much semiotic work on topic theory following Monelle (2000) (e.g., Monelle [2006], Rumph [2012], Narum [2013], and Mirka [2014] tends to treat a topic as a tripartite, Peircian sign (union between *representamen* [signifier] and *object* [signified] by means of the *interpretant*).
[29] Monelle 2000, 80.
[30] Monelle 2000, 17.

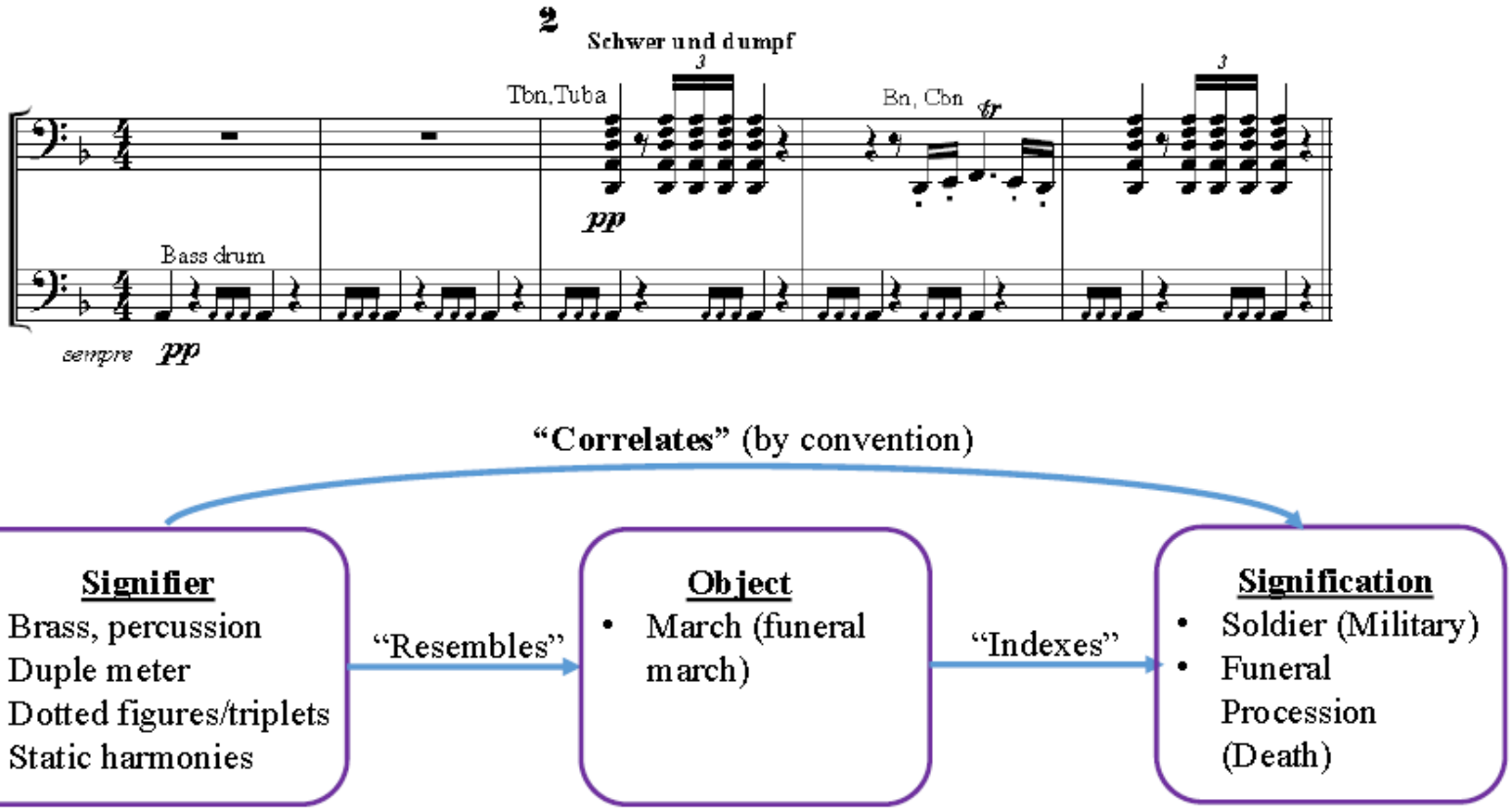

Figure 5.6. The Formation of a Topic illustrated using Mahler, Symphony no. 3, first movement, Rehearsal 2

CONVENTIONALIZATION AND CORRELATION IN TOPIC THEORY

Given this understanding of topics, it is no wonder that there have been almost no discussions of modernist musical topics, with the notable exception of Jessica Narum's excellent dissertation on topics in Schoenberg.[31] I should clarify that by *modernist* musical topics, I mean topics particular to what social scientists, cultural theorists, and historians recognize as modernist *ideologies*[32] and *aesthetic values* rather than topics of borrowed genres (e.g., exoticist representations of "hot jazz," east Asian music, etc.) or older musical forms (e.g., waltz, minuet, chorale, etc.) used in a modernist *manner* (e.g., the ironic, fragmented, or defamiliarized use of a waltz).[33] Although the distinction between older topics (especially of styles and genres) used in a modernist manner and topics particular to modernist ideologies and cultural values is not cut and dried, there is an important difference. Importantly, the *signified* of the most commonly discussed twentieth-century topics (e.g., waltz, chorale, and minuet, etc.) in and of themselves are *not* modernist cultural units. Rather, their use, for example, in an atonal environment, is what makes them *modernist*. It is the use of topics in a modernist *manner* that have dominated discussions of topics in twentieth-century repertoire with the result that topics whose *signified* is particular to modernist ideologies have been almost entirely excluded from discussion.[34]

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[31] Narum (2013).

[32] My emphasis on ideology here is fundamental to how I conceive of musical modernism and my understanding of the cultural unit of estrangement. As such, it is worth clarifying my use of the term. In particular, my understanding of ideology is indebted to work in the history and sociology of race and racism in the United States (e.g., Field [1991] and Bonilla-Silva [2006]). As the historian Barbara Fields (1991, 110) defines it, "Ideology is best understood as the descriptive vocabulary of day-to-day existence, through which people make rough sense of the social reality that they live and create from day to day. It is the language of consciousness that suits the particular way in which people deal with their fellows." In this sense, I understand musical modernism *not* as a style defined by a set of characteristic features (e.g., fragmentation, atonality, the use of irony, etc.), but as an ideology through which musical experience and understanding is filtered.

[33] The difference between a modernist *manner* of using topics and *modernist topics* (defined by ideology) is admittedly not as sharp a distinction as I am making it out to be. Nonetheless there is an important distinction to be made, which will become a little clearer in my discussion of the estrangement topic. For recent studies that focus on the *manner* in which older topics are deployed, see Frymoyer (2017) and Schumann (2015).

[34] An example of the emphasis on older topics used in a modernist manner can be seen in Agawu's reproduction of unpublished lists of modernist topics by Danuta Mirka. See Agawu (2009, 48-49). I would argue that all of the

There are a number of reasons for this, but two interrelated reasons in particular are of interest for the purposes of this chapter. First, given the commonplace notion that modernist music by definition lacks a common musical language, Monelle's conventionalization requirement would seem to rule out the possibility of modernist musical topics.[35] Second, the emphasis on correlation—which is a structural mapping between signifier and signified—as *the* primary basis of relating musical experience to broader cultural phenomena, also tends to rule out modernist topics since a correlation is by definition an *arbitrary* association that is only experienced by listeners who have been enculturated in the rule (code) that associates signifier to signified, and since there is no common *modernist* musical "language" among composers and listeners, there can be no shared musical code for topics (i.e., no *ratio facilis* between musical token and topical type).[36]

In this section, I rethink the conventionalization requirement and correlation in topic theory in order to arrive at a more embodied, *experientially grounded* understanding of topics that is in line with the understanding of the relation between musical expression and the sonic identity of musical tone developed in the first part of this chapter. In doing so, I hope to arrive at an understanding of musical topics that is capable of taking on the various cultural values (positive and negative) and ideologies of musical modernism. I do so by taking a newly proposed modernist musical topic, Estrangement, as a case study. Before I explore this topic, however, I will problematize the assumptions that lie behind the conventionalization requirement in topic theory. Doing so will help motivate the alternative I offer below. Since this section is mostly

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topics in Mirka's list are of exoticist topics and older styles and genres, whose signified is manipulated in a modernist manner. Additionally, Straus's (2001, 183-248) discussion of topics in Stravinsky's music also betrays a focus on older topics used in a modernist manner.

[35] Morgan (1984) is a classic example of this view of musical modernism.

[36] See Monelle (2000, 16) for a discussion of *Ratio Facilis* in the context of topic theory. For a discussion of correlation, see Hatten (1994, 30) and Monelle (2006, 22-23).

concerned with problematizing the uses of correlation in topic theory and offering an alternative, my summary and critique of the conventionalization requirement, as framed by Monelle, will have to be kept very brief. Still it is important to at least get a general sense of what is problematic about this requirement.

To begin with, let me give an example of the basic assumptions that are more or less implicit in the conventionalization requirement. In the following passage from Monelle's *The Musical Topic*, the conventional correlation of signifier and signified is treated as independent of anyone's subjectivity. As he puts it, "All these meanings are inherent significations, not dependent on the listener; they are *lexical*, or in common language they are 'literal' meanings. In this respect semiotics is distinguished from hermeneutics. The semiologist does not seek an 'interpretation' of music. She seeks merely an elucidation of music's meaning, if you will, a 'neutral' account of the music."[37] Implicit in this passage is the idea that the social meaning of topics is entirely distinct from the experience (i.e., understanding/interpretation) of topics. As such, this opposition relates to another assumption familiar in linguistics, semiotics, and social theory more generally, that presupposes a sharp distinction between, for example, *langue* and *parole*, competence and performance, and more general oppositions of social structure and subjective agency.[38]

What is most striking about the assumptions contained in Monelle's conventionalization requirement is that all these oppositions have long since been critiqued by authors coming from a wide range of disciplinary perspectives: from usage-based linguistics to social theorists and continental philosophers. The basic point of this critique is that by opposing subjective forms of

[37] Monelle (2006, 32).
[38] For a general summary of the *langue-parole* and competence-performance distinction, as well as an approach in linguistics that attempts to get beyond these distinctions, see Bybee (2006) and (2010).

knowledge and experience to the social (or objective), you make nonsense of both. A famous example of this argument can be found in Pierre Bourdieu's *Outline of a Theory of Practice*: "The limits of Saussurian objectivism are never more clearly visible than in its inability to conceive of speech and more generally of practice other than as *execution*, within a logic which, though it does not use the word, is that of the rule to be applied."[39] What Bourdieu is arguing here is that as soon as one reduces subjective experience (here, exemplified by Saussurian "speech" [parole]) to a mere *execution* of an underlying language system (langue) that is (implicitly) understood as the following of a rule, the nature of the execution and the underlying system becomes unintelligible. This is because, to oversimplify, in order for a rule to do its job, it has to be *interpreted* as a *correct application* (in other words, an *execution*) of the rule to the situation at hand, and at this point both the operation of the rule and its execution become inexplicable without a proper accounting of interpretive forms of understanding (e.g., what counts as a "correct application") and the situations in which these rule applications make sense. Although coming from a very different background in literary criticism, Raymond Williams offers a similar perspective to Bourdieu in his famous essay, "The Structures of Feeling": "In most description and analysis, culture and society are expressed in an habitual past tense. The strongest barrier to the recognition of human cultural activity is this immediate and regular conversion of experience into finished products."[40]

There is much more that could be said of the conventionalization problem, but let me simply end this section by suggesting an alternative account that attempts to get beyond all of

[39] Bourdieu (1977, 24). His invocation of "the rule to be applied" is a clear reference to Wittgenstein's famous critique of the notion of following a rule in *Philosophical Investigations*.
[40] Williams (1977, 128). Additionally, he goes on to write that many of the false oppositions between subjectivity and social structure have their root in the following "error": "It is the reduction of the social to fixed forms that remains the basic error" (129).

these problematic oppositions between social structure and subjective experience. Specifically, the account to be developed in this paper suggests that we treat musical topics as a kind of virtual musical "habitus"[41] analogous to the role of the lived-through body in Merleau-Ponty's account of perceptual experience.[42] Doing so requires us to move away from traditional understandings of subjectivity. Such a renewed understanding is beautifully articulated by the musicologist Michael Steinberg: "I understand subjectivity as a mode of first-person experience resistant to the articulation or representation implied by the category of the subject. As the experience rather than the position of the 'I,' subjectivity displaces the paradigm of an autonomous subject facing an outside world in favor of a lived experience that is inherently contingent on culture. Subjectivity is thus a mode of experience where self and world are difficult to distinguish. Subjectivity resides at the borders of autonomy and integration, and must be allowed culturally, politically, and discursively to live there."[43] Keeping this understanding of subjectivity in mind, I now turn to a case study of the topic of estrangement.

ESTRANGEMENT AS MODERNIST MUSICAL TOPIC

As the newly proposed topic at the heart of this case study, estrangement, embodies a particular ideology, and is always a historically emergent phenomenon, it is important to begin my discussion with an account of the historical-cultural conditions of estrangement. However, since the focus of this chapter is on the broader theoretical ideas of the relation between tone presence and expression, I can only offer an extremely potted history of this ideology. Still, it is

[41] See Bourdieu (1977) on the habitus. Additionally, my adaptation of Bourdieu's concept is indebted to Judith Becker's (2010) excellent essay on the habitus of musical emotions.
[42] Merleau-Ponty ([1945] 2002).
[43] Steinberg (2004, 7). In addition to Steinberg's more fluid, culture-bound approach to subjectivity, the approach adopted here is also greatly influenced by the more Lacanian influenced approach to subjectivity and human agency in Klein (2015, especially 122-126).

necessary to have at least a cursory account of these conditions to gain a better understanding of the cultural unit (signified) of estrangement.

In short, there are two cultural conditions of estrangement. First is what Marshall Berman, following Karl Marx, describes as one of the great achievements of the Bourgeois epoch: that is, the liberation of the human drive and capacity for development. As Berman writes**:** "The second great bourgeois achievement has been to liberate the human capacity and drive for development: for permanent change, for perpetual upheaval and renewal in every mode of personal and social life. This drive, Marx shows, is embedded in the everyday workings and need of the bourgeois economy. Everybody within reach of this economy finds himself under pressure of relentless competition, whether from across the street or across the world. Under pressure, every bourgeois, from the pettiest to the most powerful, is forced to innovate, simply in order to keep his business and himself afloat; anyone who does not actively change on his own will become a passive victim of changes draconically imposed by those who dominate the market. This means that the bourgeoisie, taken as a whole, 'cannot exist without constantly revolutionizing the means of production.' But forces that shape and drive the modern economy cannot be compartmentalized and cut off from the totality of life. The intense and relentless pressure to revolutionize production is bound to spill over and transform what Marx calls 'conditions of production'….as well, 'and, with them, all social conditions and relationships.'"[44] In short, the overwhelming feeling of pressure and the necessity to both innovate, and constantly adapt to the innovations going around one (i.e., the constant "revolutionizing of the means of production"), whether these be in technology, the arts, or even moral development, is an extremely important condition of modernist estrangement.

[44] Berman (1988, 94-95).

The second condition relates to the emergence of historicism in the nineteenth century.[45] While the role of historicism in the emergence of modernist music in the nineteenth and twentieth centuries has been widely commented upon, I take what Habermas describes as "modernity's consciousness of time" as my point of departure.[46] This consciousness involves "one's own standpoint brought to self-awareness within the horizon of history as a whole."[47] This, in turn, involves a shift in meaning of the idea of a "new age" towards that of an *oppositional* concept. And, along with this understanding of a "new age" comes the felt sense that "modernity has to create its normativity out of itself." Habermas characterizes this need for self-normativity as the problem of "Modernity's self-grounding." For Habermas, this problem is embedded in Hegel's understanding of a kind of alienated subjectivity that, against all odds, attempts to ground its own identity out of itself. But this most insecure form of subjective self-grounding can only lead to a sense of alienation. In summary, what both of these cultural conditions share is that, as David Harvey puts it, "The only secure thing about modernity is its insecurity, its penchant even, for 'totalizing chaos.'"[48]

To avoid possible misunderstanding, let me emphasize that these are cultural *conditions* and not *causes* of estrangement; that is, these conditions function in a sense different from Kant's conditions of the possibility in that they *make possible* but do *not* necessitate the *specific* emergence of the cultural unit of estrangement. What is the cultural unit of estrangement? I take as my point of departure, a potent description of estrangement as "ironic nostalgia" by the literary theorist Svetlana Boym. She writes, "If utopian nostalgia sees exile, in all the literal and

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[45] For a discussion of the emergence of a pervasive historical consciousness in the nineteenth century, see Schorske (1998).
[46] For discussions of the relationship between historicism and modernist music see, for example, Burkholder (1983), Taruskin (2004), and Frisch (2005). For an excellent discussion of the shaping forces of historicism in the writings of the nineteenth-century music historian Franz Brendel, see Gur (2012).
[47] Habermas (1987, 7).
[48] Harvey (1989, 11).

metaphorical senses of the word, as a definite fall from grace that should be corrected, ironic nostalgia accepts (if it does not enjoy) the paradoxes of exile and displacement."[49] Adapting this notion of "ironic nostalgia" beyond its original context, I suggest that estrangement in music be seen as simultaneously a willful acceptance and way of coping with the cultural circumstances of perpetual instability that arises with an overburdening historicist consciousness and the modernist capacity and drive for development that emerged in the nineteenth century, but accelerated dramatically in the twentieth century.

Earlier in my discussion of this topic, I characterized estrangement as a cultural unit, a term that has a specific technical meaning in semiotics. In the following section I offer an interpretation of estrangement as a cultural unit after the model developed in conjunction with the "authentic atonal tritone." Following this interpretation, I conclude by illustrating the use of this topic in Shostakovich's Eighth Symphony along more traditional lines of investigation. This will set up the reframing of musical topics along the lines developed in the first part of this chapter in which this cultural unit acts as a background of involvements that makes possible the intelligibility of the signifier.

ESTRANGEMENT AS A CULTURAL UNIT

Figure 5.7 is a visual representation of the indefinite network of interpretants constituting the cultural unit of estrangement. As in Figure 5.4, each boxed word or concept represents a sign, while the lines connecting boxes indicate interpretants. As an example of the function of the interpretant in this network, consider the central sign, "ironic nostalgia." Suppose someone

[49] Boym (1996, 512).

knowledgeable of this cultural unit was asked to explain this sign. They might reply that it is the feeling of being enamored of distance, the sign on the bottom left. Asked to describe the feeling

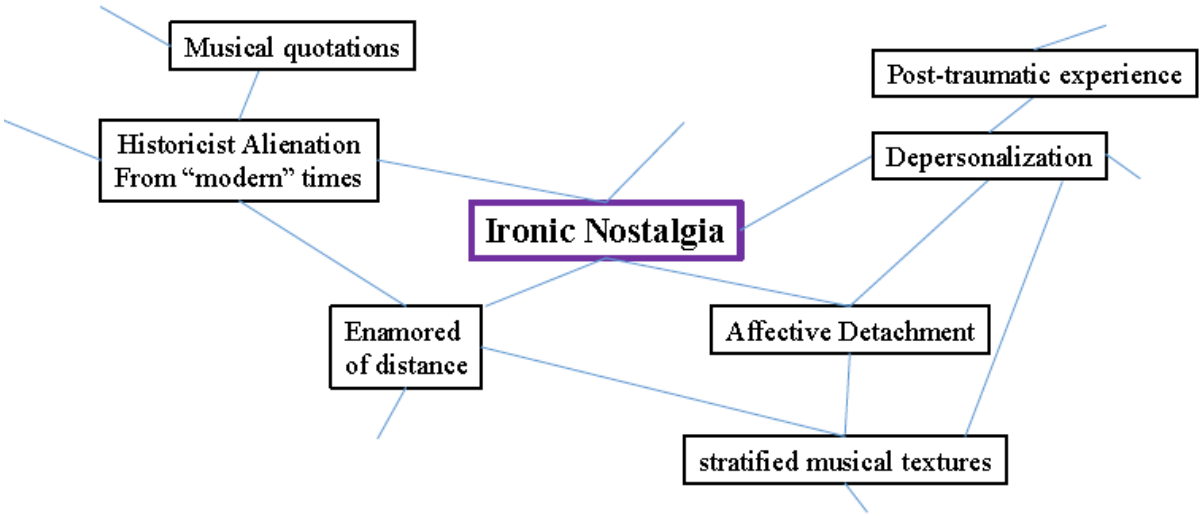
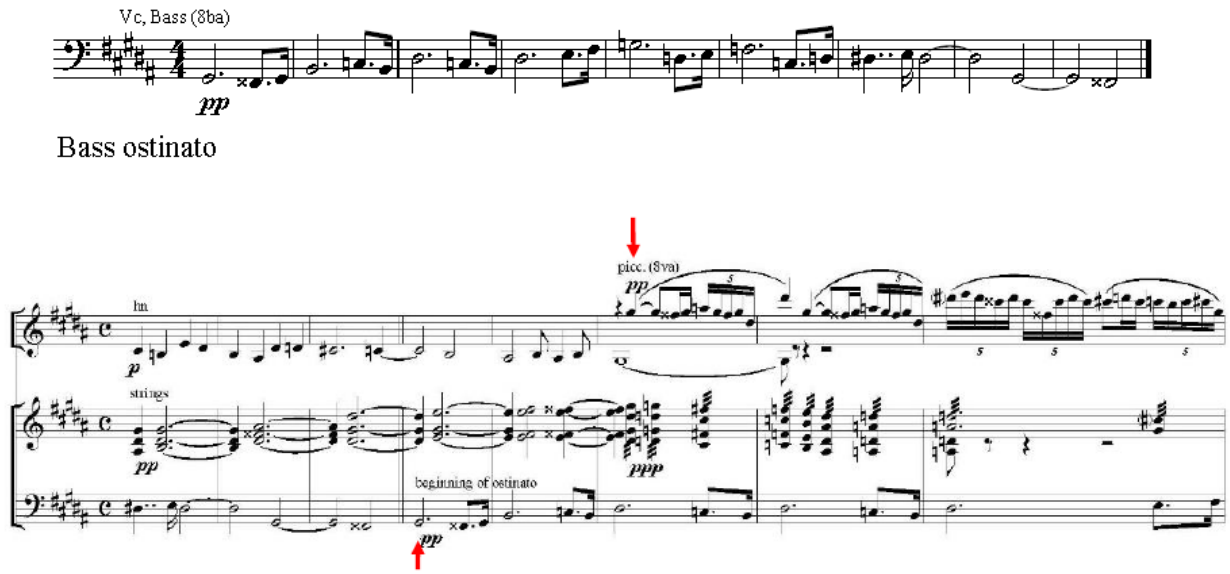


Figure 5.7. Estrangement as an Indefinite Network of Signs Interpreting Other Signs

of being "enamored of distance," one might *point to* the broader historicist condition of feeling alienated from *our* (i.e., modern) times. And, perhaps most important of all, if asked to *exemplify* this condition, one might perform an excerpt that includes an ironic quotation of an older genre. It is this larger network of signs interpreting other signs, often from different systems (music, language, emotions), in an indefinite network that constitutes the cultural unit of estrangement.

With this understanding in mind, let me briefly illustrate an example of this topic in the fourth movement of Shostakovich's Eighth Symphony (see Example 5.1). After a gradual, dissonant buildup in the transition between the third and fourth movements, a sudden and dissonant explosion of energy gives way to a unison statement of the primary ostinato in low woodwinds, brass and strings. This is then endlessly looped by the celli and bass at a very soft

dynamic entirely devoid of expressive nuance and dynamic change. Against this almost lifeless ostinato, various woodwinds introduce melodic lines that are intentionally misaligned with the beginnings and endings of the ostinato figure, such that each of these lines appears oblivious to



Example 5.1. Shostakovich, Symphony no. 8, fourth movement, mm. 55-62

the harmonic implications and phrase structure of the ostinato. Both features give the impression of the state of *depersonalization*, or the feeling of being removed from one's own body—a devastating condition associated with post-traumatic states and whose broader socio-cultural meaning has been associated with certain works of modernist literature by the literary theorist Ulrich Baer.[50] As one of the many interpretants of ironic nostalgia, the sign of depersonalization may cue the listener on to the broader cultural unit, and therefore, topic of estrangement, especially given its placement after the massive explosion of energy at the end of the third movement.

[50] Baer (2007).

But is estrangement really a topic? Given Allanbrook's description of a musical topic as a "commonplace" and Mirka's definition of topics as limited to styles and genres, the answer would appear to be no.[51] Furthermore, Agawu has characterized a topic as a type that is constituted by a set of *invariant features* that individual tokens must have to be considered a token of the topical type, and I do not seem to have listed these features.[52] To the contrary, my selection of relevant musical features seems *ad hoc* at best.

In response, I would note that no published list or inventory of musical topics includes these lists of necessary and sufficient musical features.[53] And there is a good reason for this; when it comes to the *experience* (i.e., understanding/interpretation) of topics, considerations of *relevant* musical features are almost always a *post hoc rationalization* of a more basic experience of the cultural unit. The reason this is almost always the case goes back to my discussion of the conditions of the *intelligibility* of musical features, which are taken as the constitutive elements of musical signifiers. Recall that although the notion of a musical signifier is often taken for granted—especially because the separation of sign *systems* (e.g., *langue*) from sign *use* (e.g., *parole*) is taken as axiomatic for much work in semiotics—when we ask what a musical signifier is *for experience*, the issue is not at all simple. Following a Merleau-Pontyian and Heideggerian line of thought elaborated in Chapter 3, I argued that the conditions of intelligibility of musical

[51] Allanbrook (2014, 92). Additionally, similar reasons offered here *against* treating estrangement as a topic are mustered by Allanbrook (2010) in her arguments against considering the sublime as a musical topic.
[52] Agawu (1991, 35) makes this point very clear when he writes: "Each sign is a member of a larger topical class that is defined by certain *invariant characteristics* whose presence alone guarantees the topic's identity. That is, a given topic may assume a variety of forms, depending on the context of its exposition, without losing its identity" (emphasis my own).
[53] For examples of lists, or "lexicons," of musical topics see Agawu (2009, 43-49); Dickensheets (2012, throughout essay); and Allanbrook (2014, 109-111). Dickensheets does, in fact, include a list of "characteristic musical gestures" for some of her topics (in particular, Table 3 "Exotic Dialects Commonly Used in Nineteenth-Century Music" [130-131]); however, these gestures are not indicated as *essential* to a topic's identity, and these characteristic gestures are not given for all of the topics discussed in her essay (for example, Tables 1 and 2 list extra-musical associations, but not musical gestures).

features are constituted by one's *concerned* and *responsive involvement* with musical situations, and that this concerned involvement frequently encompasses the expressive behavior of these situations.

So, what does any of this have to do with musical topics? First, I want to suggest that we reinterpret the network of signs interpreting other signs in Figure 5.7 along the lines of Figure 5.5 as the totality of involvements (i.e., the mutually interdependent relations of the in-order-to, toward-which, and for-the-sake-of-which) functioning as the ground to the musical signifiers' figure. (This relation is visually represented in Figure 5.6 in conjunction with the analysis of Crumb's "Dream Images" below). Treating the relation between cultural unit (signified)—reimagined as the totality of involvements—and signifier as that of a figure/ground relation *rather than* correlation allows us to rethink the ways in which the historical-cultural dimensions of musical topics are related to musical experience. In traditional accounts (represented by Figure 5.3) the experience of topical tokens is described as if we first "hear"—in the problematic sense of predicating pre-given properties of a musical object—a bundle of musical features, and by virtue of a cultural competence (i.e., a code), we are able to *then* associate these properties with a specific style or genre that, *by convention*, *indexes* a social function or cultural affect associated with this genre. In this sense, the "music itself" is said to *represent* or *associate* with certain historical social functions and cultural affects, almost always viewed in terms of static things "in the past tense," as Raymond Williams puts it. In the figure-ground understanding offered here, what was conceived as the signified or cultural unit of topics (the social functions and general affective significations) is no longer conceived as a static representation associated with pre-given signifiers, but instead as a dynamic, embodied *process* that *organizes* musical situations and by doing so functions as the condition of the intelligibility of musical "features" (i.e.,

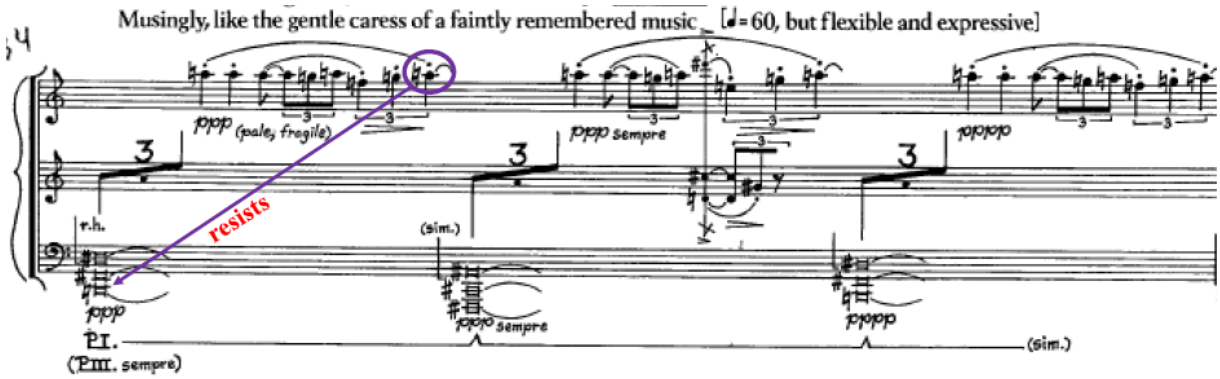
signifiers).[54] In other words, rather than *correlating* musical features (or "configurations of musical parameters") with cultural units, the process of "topicalizing" musical situations (e.g., at the level of a tone's contextual overtones) acts as the *ground* that helps make the sounding presence of these musical "features" (the "figure") intelligible as such. Note, too, that in this framework, topics are no longer seen as nouns, but verbs; that is, the *process* by which musical situations are "topicalized" with respect to a specific socio-cultural "for-the-sake-of-which" (e.g., "ironic nostalgia" or estrangement) that "orders" the network of interpretants in a manner analogous to the "in-order-to" and "toward-which" of the hammer discussed in Chapter 3. In the final section of this chapter, I offer an example that illustrates a musical situation where the sounding presence of tones is made intelligible by the organization of the musical situation in terms of the totality of involvements of the Estrangement topic.

ESTRANGEMENT AND TONE PRESENCE IN CRUMB'S "DREAM IMAGES," *MAKROKOSMOS*, BOOK I

To help illustrate how this figure-ground relation works with respect to the estrangement topic, the following example of the topicalization of musical features is one that is associated with polytonal situations. Since the phenomenon of polytonality involves an extreme case of musical ambiguity in the formation of musical tones for experience, it offers a good example of how the topicalization of musical situations helps make the intelligibility of a tone's sonic identity. One of the most trenchant definitions of polytonality is developed by Peter Kaminsky. As he writes, "[The] terms polychords and polytonality share a fundamental component in general, both come into being according to whether and to what extent *the treble can resist*

[54] Recall from Chapter 2 that when we reframe musical "hearing" as the immersion in a situation, musical "features" are better described as *aspects* of holistic situations, hence the use of scare-quotes for musical "features."

assimilation by the bass and retain its own distinct identity and priority."[55] I suggest that, in certain musical circumstances the cultural unit of estrangement——as a totality of involvements——can serve as the conditions of the possibility for the treble's being experienced as "resisting" assimilation to the bass. This situation can be heard in "Dream Images (Love-Death Music) from George Crumb's *Makrokosmos*, Book One (Example 5.2). While the last A in the first melodic group of the phrase could be assimilated down to the bass as some kind seventh chord (whether a dominant seventh, I7, IV7, etc.), here the A5[56] *resists* assimilation when we hear the totality of involvements of the estrangement topic functioning as the *background* of our experience. This figure-ground relation between the resistance of A5 in the treble (figure) and the cultural unit of estrangement is represented in Figure 5.8. In this example, we experience (understand/interpret) A5 *as* a "liminal" scale degree 3 in F Major ***in order to*** resist assimilation to the harmonic



Example 5.2. Crumb, *Makrokosmos*, Book I, No. 11 "Dream Images (Love-Death Music)

[55] Kaminsky (2004, 241), emphasis my own.
[56] The Acoustical Society of America designation, A5, is used here for lack of a better alternative for representing a sounding phenomena that has yet to receive a ground (totality of involvements) that makes it intelligible *as* a specific signifier. In other words it is equivalent to "Thing X" in the Heidegger hammer example.

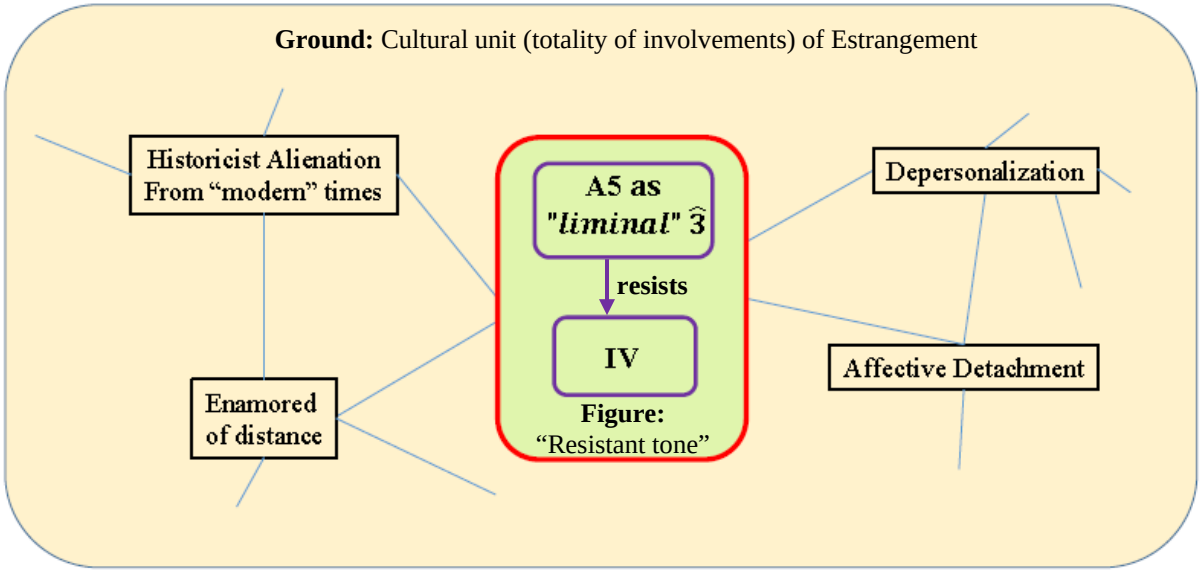


Figure 5.8. Estrangement as a Figure-Ground Relation in Crumb, "Dream Images"

implications of the bass (i.e., I7, V7, or Plagal IV7) ***toward*** embodying the feeling of being enamored of distance ***toward*** indicating (*pointing to* [an interpretant]) the broader historicist forms of alienation from past Western classical musical traditions ***for-the-sake-of-which*** reproducing (tacitly) the ideology of estrangement.

CONCLUSION: TOPICS IN DISCOURSE; TOPICS IN EXPERIENCE

In my case study, I advocated for reinterpreting the cultural unit as a totality of involvements that functions as the *horizon of our perception* of the musical signifier. In doing so, I suggest that, while the lexical conception of topics as referential entities still retains great value in topic theory, we move more toward a dynamic experiential one; that is, we treat topics as verbs—as a process in which musical experience is "topicalized"—as opposed to nouns. In other words, I suggest topics represent a *way of organizing musical experience* in terms of a totality of

involvements that is grounded in culture and history. To use the language of Raymond Williams, topics represent real, embodied *cultural activity*. Doing so allows us to engage with the varieties of fraught musical experiences that are particular to modernist ideologies and values that have seemed so resistant in topic theory (and music theory more generally) to culturally grounded musical interpretation. I have offered the case study of Estrangement here only as one of many possible examples that such an experientially grounded approach offers to topic theory.

Nevertheless, let me say that while I have promoted a phenomenological approach to topic theory, it is important to note that this paper still owes a deep debt to those semiotic approaches such as Agawu's more flexible approach to the identification and interpretation of topics, Klein's treatment of topics as intertextual codes and Monelle and Allanbrook's rich cultural histories of topics, that have played a prominent role in the development of the field.[57] Furthermore, while I have argued that our *experience* of topics is better represented as a verb (i.e., the "topicalization" of musical experience), it is nonetheless true that our *linguistic representations* of topics does take the form of a noun (i.e., hunt topics, estrangement topics, etc.). We do *talk* about the odd evocation of Ragtime (genre as noun) in Stravinsky, and the distorted treatment of *a* Waltz in Ravel, and such discussion clearly takes on meaning outside of its immediate experience.[58] And, because neither language or music is an autonomous, the linguistic *representation* of topics in everyday conversation has a mutual influence on the "topicalization" of musical experience. As such, for the more discursively centered understandings of musical topics, more traditional semiotic approaches remain invaluable.

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[57] See especially Agawu (2009), Klein (2005), Allanbrook (2014), and Monelle (2000) and (2006).

[58] Of course, it is a different question all together about whether our *experience* of topics serves as the *condition of the possibility* of our language about topics, or whether (and how) language (whether conceived autonomously or not) can influence our experience of topics. This classic problem of the relation between language and experience goes well beyond the scope of this project.

Finally, while I've advocated for the value for modernist topics of an *experientially grounded* approach, the principle aims of topic theory remain the same. As Monelle eloquently put it, "The primary concern of the topic theorist is to give an account of each topic in global terms, showing how it reflects culture and society, not to focus on music alone."[59] Given the experientially grounded approach offered in this talk, I would make one addendum to this agenda: the point is to show how music *embodies* culture and society rather than *reflects* culture and society.

[59] Monelle (2006, 10).

Chapter Six

Tone Presence and *éblouissement* in Messiaen's "demeurer dans l'amour" from *Éclairs sur l'au-delà*

Having developed a model of tone presence that moves away from ideas of pitch structure and organization as intrinsic properties of collections whose elements are autonomous parameters described at the neutral level, toward an account that treats tones as situational characteristics that are dialogically oriented, I conclude this dissertation with an extended analysis of tone presence in Messiaen's "demeurer dans l'amour" from *Éclairs sur l'au-delà*. In the process I will bring in concepts of temporal experience in relation to tone presence that were left implicit Chapters 2-5.

INTRODUCTION

Much work has been done in recent years on unraveling the intervallic and tonal properties of the colors underlying Messiaen's Modes of Limited Transposition and Color-chords.[1] In many of these studies the "sound-colors" are treated as substantial properties *inhering* in the chords—following Messiaen's mechanical presentation of the sound-colors in his chord tables and descriptions of the modes of limited transposition. Yet, in reducing the colors of these chords to mere properties attributable to the intervallic content of chords and modes, these authors tend to portray the chords as static objects detached from the ongoing process of the music. Furthermore, because many theorists have focused exclusively on the intervallic properties of Messiaen's color chords (in the traditional sense of intervals as discrete quantities),

[1] Among the many texts on this subject, see Benitez (2004); Bernard (1986), (1995); Cheong (2003), (2010).

little work has been done on how these structures relate to the melodic content and larger expressive aims of Messiaen's work, such as his long-standing concern with the concept of *éblouissement* ("dazzlement"). As the musicologist Sander van Maas has suggested, Messiaen's use of color-chords, and his deep passion for the colors of stained-glass in particular, was a *means* toward attaining the state of *éblouissement.* As Maas writes,

> His synesthesia opened the possibility for Messiaen to translate the intense experiences that in various churches and chapels had occurred to him into music. Or rather, into sound-color or son-couleur, as he called it: the intermedial connection of sound and color. It is not just that he imitates the colors of stained glass in his music, but, by means of the violent contrasts in color (as the red and blue of Chartres), he aspires to achieve a musically mediated *experience* of dazzlement. The reason for this objective was already announced in the preceding: dazzlement is, to him, the mystagogical and transformative experience, regardless whether it takes place in chapels and cathedrals, or in music.[2]

In this chapter I seek to rethink how the phenomenon of pitch is dealt with in Messiaen's later work by analyzing what I call tone presence in Messiaen's "demeurer dans l'amour" from *Éclairs sur l'au delà* ("Flashes" or "Illuminations of the Beyond") from a process-based perspective.[3] As such, this chapter seeks to complement the work on the nature and genesis of Messiaen's synesthesia and color-chords by examining their relationship to the melodic, rhythmic, and formal processes in "Demeurer dans l'Amour," as well as an interpretation of the expressive *ends* to which Messiaen employed these techniques. In particular, I am interested in

[2] Maas (2009, 34).
[3] Examples of process-based music theories include Hasty (1984), (1997), and (2010); Schmalfeldt (2011).

Messiaen's conception of time, its relation to the programmatic content of this movement, and the relation of the two to the issue of tone presence and phrase formation.

I begin with a discussion of the underlying spiritual conception contained in the program notes, which frames musical processes in the movement, and its relationship to certain phrase and rhythmic phenomena in "demeurer." Following this discussion, I present a definition of tone presence and offer three analyses of the second phrase in order to show how my definition both departs from and incorporates traditional approaches to pitch in post-tonal music. I then elaborate my definition of tone presence by making use of ideas from the metrical terminology of Christopher Hasty, Matthew Butterfield's theoretical work on the metaphor of the musical object, and certain construal phenomena from the cognitive linguist Ronald Langacker. I end the chapter by deploying these concepts in the analysis of various constituents and phrases in the first phrase of "demeurer" (mm. 1-11).

"ABIDING IN LOVE" AND TWO CONCEPTIONS OF TIME

The title of his fifth movement (or "illumination") gets its name from a famous quotation from Chapter 4, verse 16 in the *First Letter of John* quoted in Messiaen's program notes. It reads, "God is Love, and those who abide in love abide in God, and God abides in them."[4] Many theorists who may otherwise be intrigued by Messiaen's work and musical technique nonetheless tend to be embarrassed by the specifically religious sentiments embodied in such references. While I sympathize with those theorists who want to emphasize those elements of his style that are open to those who don't share Messiaen's Catholic faith (myself included), I do think we miss something essential if we do not try to understand the underlying expressive content of such

[4] *NRSV*, 1 John 4.16.

quotations, often serve as important conceptual frameworks for the ongoing process of many of Messiaen's works.

With respect to "demeurer," this conceptual framework resides in what Vincent Benitez describes as Messiaen's dual conception of time. In "Reconsidering Messiaen as Serialist," Benitez shows that Messiaen has written at some length about the distinction between the human experience of time, and that of God. With respect to human experience, "Time is the measure of movement: it is continuous and implies successive change….in a mutable thing, as exemplified by a finite linear sequence of natural numbers," whereas for God, time concerns "eternity… [as] the measure of God's permanence: it is immutable, indivisible and simultaneous."[5] When we connect these two notions to the striving for the interconnection between humans and God by means of love suggested in the quote from John, as well as the rate of motion in the formation of phrases in "demeurer," the conceptual framework for the movement becomes immediately recognizable. By making use of an exceptionally slow tempo, with a tempo-marking of *sixteenth-note* = 46, an analogy is drawn between the theme of abiding in love and Messiaen's theological distinction between the human experience of time and that of God. More specifically, the human experience of the near motionless unfolding of events in "demeurer" can be analogized as the attempt at abiding in God's "immutable, indivisible, and simultaneous" and eternal experience of time. Thus, Messiaen invites the listener to imagine a different experience of time beyond one's normal experience of the unfolding of musical time. Below, I attempt to interpret how this broader, spiritually-motivated conceptual framework influences the feeling of phrase formation in "demeurer." Before venturing into an interpretation of this relationship, however, I need to elaborate the concept of tone-presence as it relates specifically to this work.

[5] Benitez (2009, 270).

ANOTHER CONCEPTION OF TONE PRESENCE

In his "Composition and Context in Twelve-Tone Music of Anton Webern," Hasty defines tone as "a pitch which has assumed specific intervallic qualities through its combination with other pitches."[6] As a prime example of his concept of tone, Hasty points to the traditional understanding of set-class that emphasizes its total intervallic content over transpositional and inversional equivalence. What is appealing about this definition of tone is its highly contextual and (potentially) temporally involved conception of musical pitch relationships. In this chapter, however, I broaden the scope of this definition of tone by making use of the cognitive linguist Ronald Langacker's broad class of construal phenomena and Matthew Butterfield's Idealized Cognitive Model (ICM) of a musical object. Before doing so, it is important to remember that the by musical tones (and the intervallic relations they take part in) I mean a situated quality whose meaning is defined by its *functioning for* the formation of phrases, constituents, and durational quantities *as experienced by an actively involved conceptualizing subject*. In this definition tone is treated as a functionally disposed *aspect* of a holistic musical situation and NOT a property, domain, or autonomous parameter. In the rest of this section I will develop this conception of tone by elaborating Hasty's conception of phrase formation, and two of Langacker's construal phenomena, degree of specificity and perspective, through the lens of his viewing metaphor in grammar. I will begin, however, with a comparative analysis of the first four chords in the second phrase of "demeurer" in order to get a sense of how my conception of tone departs from conventional understanding of pitch structure in Messiaen's music and, in the process, introduce the basic symbols and notation used throughout this paper.

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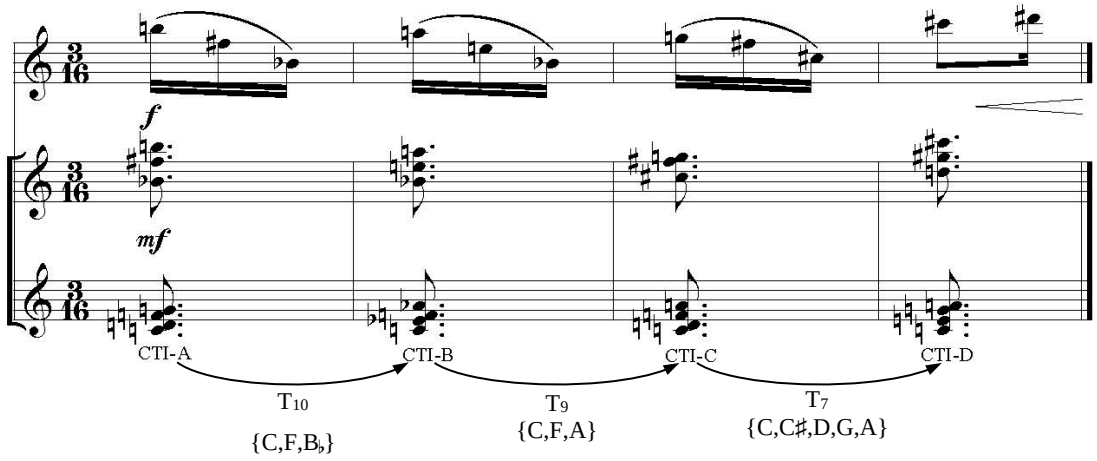
[6] Hasty (1988, 289).

Example 6.1 shows the beginning of the second phrase in "demeurer" (mm. 12-15) together with the traditional labels "Chords of Transposed Inversions on the Same Bass Note" (CTI) A, B, C, and D that Messiaen has given these chords. In what follows I offer two interpretations of the pitch *presence* (how pitch becomes perceptually presence or manifest in a passage) of this passage that exhibit more traditional understandings of pitch and tone in atonal analysis. Following these analyses I offer my own interpretation to show where I incorporate elements of these traditional approaches and where I depart from them. I also adopt certain notational features which will be explained over the course of the analysis. I begin with a traditional set-theoretical accounting of this passage, followed by analysis that makes use of a Benitez-style reading of these chords.[7]



Example 6.1. Phrase 2 from Messiaen, *Éclairs sur l'au-delà*, V. "demeurer dans l'amour," mm. 12-15

Messiaen's "chords of transposed inversion on the same bass note" (henceforth CTI) consists of a progression of four chords of the same set-class, 7-20 (0125679), and the same

[7] Benitez (2004) doesn't actually analyze this passage in his article on the CTI chords, but we can infer how he might read this passage from other examples he gives in his essay.

sequence of transpositional relationships.[8] That is CTI-A becomes CTI-B via T_{10}, CTI-B becomes CTI-C by T_9, and CTI-C becomes CTI-D by T_7, and this sequence of transformations always remains fixed regardless of the transpositional level of CTI-A. There are a number of possible reasons such a sequence of transpositions was chosen. The most obvious reason comes from the name of the chord itself. That is, Messiaen aims to retain the lowest note in the chord even as he continuously changes the interval of transposition between chords. In addition, this sequence of transpositions allows him to retain three common tones in the move from CTI-A to CTI-B and from CTI-B to CTI-C, and five between C and D (this is shown in Example 6.1). Of course, he could have made use of many different choices other than T_{10}-T_9-T_7 to retain the lowest note in the bass. For example, the transpositional sequence T_1-T_1-T_5 could have done the job equally well, and it would have retained more common tones between chords. Perhaps there is a better explanation that will allow us to perceive a greater sense of unity beyond the use of chords derived from the same set-class. In fact, Benitez suggests that we should look at these chords in a more tonal lens that also respects Messiaen's derivation of these chords. It is to this reading that I now turn.

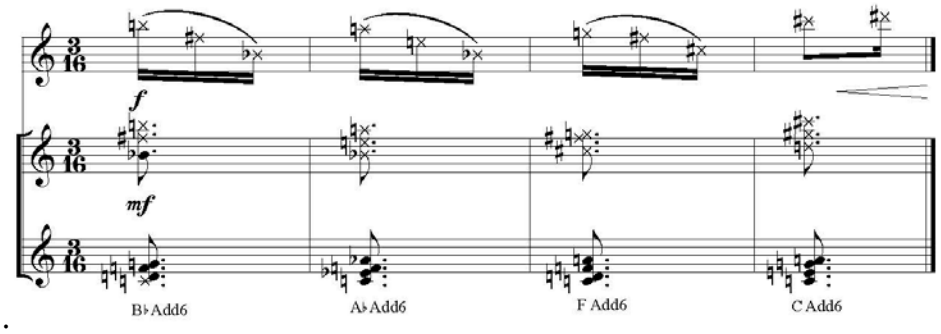
For Benitez not all intervallic connections in the CTI chords are of equal importance. While respecting Messiaen's derivation of these sonorities as essentially dominant ninth chords with the leading-tone replaced by the tonic, the ninth moved down an octave, and two added-note pitches placed on top of this sonority,[9] Benitez nonetheless notices a discrepancy between Messiaen's color classification of these chords and their derivation in the added-ninth sonority.

[8] As we will see in the following Benitez style analysis, Messiaen is thinking of inversion in the traditional tonal sense of this term.

[9] For example, the dominant ninth chord in the CTI-A chord in Example 1 would be C-E-G-Bb-D. The D is moved down an octave and the E (leading-tone) is replaced by F, the tonic. Messiaen then adds F♯ and B (he calls them appoggiaturas) on top of this chord as added-note pitches.

In particular, he notices that the lowest four pitches in CTI-B, C, and D constitute major triads with added sixths. Furthermore, he notes that the color designations that Messiaen gives to the four lowest notes in his chord tables always correspond to the traditional color designations Messiaen gives to each of the twelve transpositions of the major added-sixth chords.[10] In addition to Messiaen's color designations, Benitez notes that Messiaen also structures his chords in analogy to the notion of simultaneous contrast and natural resonance. Very briefly, this means that Messiaen treats certain chord structures *within* his larger sonority as *primary* harmonic (or color) elements grounded in the natural resonance of the overtone series whose basic hue can be altered by means of added-note sonorities which are often derived from the upper partials of the overtone series. This is the case with Messiaen's CTI, which places the added sixth chord (in different inversions) in the lowest four voices and adds the ninth, thirteenth, and seventeenth partials above this chord. A schematic representation of the distinction between primary and secondary elements for the passage in Example 6.1 is shown in Example 6.2. In this example, the added-sixth chords are brought out through the use of filled-in note-heads. In so doing, I am attempting to show the primacy of their presence in the unfolding of these sonorities. I am also suggesting that the pitches notated with X-note-heads, as secondary elements are less vivid than the added-sixth chords. Or, following Benitez's reading of Messiaen, these secondary pitches alter the relative brightness and value of the primary hue, but do not categorically alter the primary chordal element.

[10] Benitez (2004, 208).



Example 6.2. Schematic Differentiation Between Primary and Secondary Elements in CTI chords in mm. 12-15

In addition to designating certain subsets within the CTI sonority as primary, Benitez suggests tonal functions for passages where only one or two CTI sonorities are juxtaposed with non-CTI sonorities. However, since he does not analyze passages where the entire progression is held intact I can only speculate as to how he would interpret this passage. Still, since he suggests that the placement of CTI chords in nontonal contexts exudes a quasi-tonal presence by virtue of being placed at resting points of phrases, we can interpret the passage in mm. 12-15 as a gradual *clarification* of the status of the added-sixth sonority *as the primary element* in the larger CTI complex. From this perspective, the first B-flat added-sixth that is embedded in the middle of a sonority is less clearly demarcated as a subset from the other members of the CTI chord than is the case in the following first and second inversion added-sixth chords which are more clearly heard apart from the larger sonority. After these chords, the root position C major add-sixth chord at the conclusion of this part of the second phrase is by far the most clearly distinguished added-sixth chord.[11] Yet, although I can easily hear that last C Major add-sixth chord as the conclusion of a larger melodic-harmonic process, and it is certainly the most audible instance of a modified added-sixth sonority (as opposed to an undifferentiated instance of the larger set-

[11] Messiaen (2002, 147) gives this chord (CTI-D) the following color description, which is read from top to bottom: "Bright golden sun on bright white snow."

class), I'm not sure that I hear that last sonority *as a tonic*, or whether the notion of its being a tonic is even relevant.

Clearly, both interpretations have something to offer to one's experience of this passage, and in many respects, they are fully compatible. Furthermore, since this passage does not lend itself particularly well to any consistent contextual inversion, voice-leading, or any other recent methodology, these two readings are as descriptively adequate as any other theory in explaining the purely formal properties of this chord sequence. On the other hand, these passages offer very distinct interpretations of the kinds of pitch presence prominent in this passage. In the first analysis, the connection between sonorities was viewed at a very abstract level of generality and as a result the kinds of pitch presence addressed were of a much more schematic (as opposed to specific) nature. For example, the set-class reading of this passage not only involves a form of categorization that includes the entire set of OPTIC (octave shift, permutation, transposition, inversion, and cardinality shift) transformations, it also treats all interval *class* connections among all seven pitch-classes as equally present to perception.[12] In contrast to this reading, the Benitez-style analysis distinguishes between the prominence of particular interval connections, and places these connections within a different *categorical frame*. Specifically, he invokes quasi-tonal terminology in designating four of these pitches in more specific terms as a major added-sixth chord while simultaneously designating the other pitches in even more schematic terms than the set-class reading; that is, he describes these other three pitches only in terms of their *elaboration* by means of artificial harmonics of the dominant color of the added-sixth chord. As such, Benitez brings in two completely different intervallic measures (overtone partial and diatonic scale degrees) to describe the quality of tone than is present in the set-class theory

[12] Callender, Quinn, and Tymoczko (2008).

reading. This intervallic reading, in turn, opens up the *possibility* of hearing this passage as the *gradual process* of clarification that ensues in the progress from the embedded B-flat added sixth chord to the "bright white," root position C major added-sixth chord illuminated by the "bright golden sun" of the ninth, thirteenth, and seventeenth partials.

From these two readings, we have seen the polyvalence of tone presence that is manifest in a single passage depending on the conceptual frame that is brought to bear in the interpretation of this passage. And, of course, there are many more possible interpretations of this passage. For instance, we might hear the voice-leading between each pair of chords in the CTI progression as an instance of fuzzy inversion since the primary harmony, the added-sixth chord ([0358]), map onto themselves under inversion.[13] In this reading, all two-chord progressions exhibit a fuzzy-inversion with an offset of 2 semitones from a maximally balanced voice-leading between chord pairs: $*I_{10}$ between CTI-A and B, $*I_5$ between B and C, and $*I_9$ between C and D. From this we can weave a narrative about the function of that offset, especially with respect to the one voice which is off in each case. Again, even more readings are possible, but the major point to take away from these analyses is that a single passage has many possible referents depending on how the listener construes it. That is, reference cannot be fixed independent of a conceptualizing subject.[14]

While there are many differences among the above readings, what all of them have in common is the assumption that pitch becomes present to perception determinately as a *fixed set of properties*, which it is the job of rhythm, texture, and other domains to help articulate. By

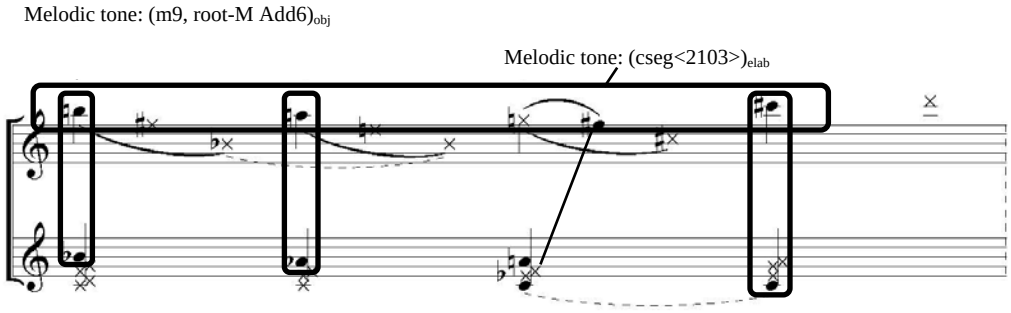
[13] Of course, this mapping is not unique to (0358) subset in the CTI chords, but the prominent position of the added-sixth chord in the lowest voices at the end of the progression does raise this subset to perceptual prominence.
[14] This inability to fix reference outside the goals, knowledge, and experience of an individual is a major theme of embodied cognition and cognitive linguistics. See, for example, Lakoff (1987), Barsalou (2008), and Langacker (2008).

determinately, I mean the idea that we either *can* or *cannot* hear a specific pitch structure which is in the music, and by fixed set of properties, I mean that while there may be different systems of measurement for intervals (contour, pitch-classes, diatonic intervals, etc.), once one decides which system to use (as has traditionally been done, for example, by asking whether a piece is tonal or atonal with the assumption that these two systems fix reference), then all one can do in hearing a passage is to assign a structural description of the pitch structure according to that system.[15] However, if reference cannot be determinately fixed, and all of these views still lie at the level of a priori commitment rather than necessary truth, then we can seek a different view of how pitch becomes present. Instead of seeing rhythm, texture, phrase formations, and associative relations as serving the function of articulating determinate pitch structures according to a fixed system of pitch relationships, we can view it the other way around; that is, the presence of pitch may sometimes be usefully viewed as helping to articulate rhythmic or gestural processes. Furthermore, if there are multiple systems of pitch relations that can be brought to bear depending on the goals, interests, and modes of construal brought to bear by the listener, then why posit a singular system in the first place? Instead, we can say that the kind of *conceptual frame* (a term I prefer to "system") used to experience pitch relationships (which I will now call tone for the rest of the chapter) is a *function* of its role in helping to articulate the broader rhythmic, gestural, and expressive processes. This is a view I will now seek to elaborate. In order to introduce a mode of analysis that treats pitch presence as a kind of functional disposition, I return one more time to an analysis of mm. 12-15.

In a *formal* analysis of tone (again, this is similar to pitch relationships), one would ask what a tone *is* (e.g., that collection of pitches is an instance of [037] or a major triad, or a T_7

[15] The notion that listening to music is essentially the assignment of a structural description to a passage according to some system (e.g., grammar) has been articulated by Lerdahl (2001) and Temperley (2001), among many others.

transformation of the previous object) whereas a functional analysis asks the question what a tone *is for* (e.g., that major triad is taken as a musical object of manipulation that is gradually transformed in a process of liquidation that invokes such and such a *topos*). Note that formal and functional analyses are not mutually exclusive. In fact, they usually reinforce one another. Yet, I would argue that the mutual interdependence of formal and functional analysis of pitch is of an asymmetrical nature. The reason is that, as we have seen above, the referential status of a formal analysis cannot be fixed (e.g., how do we decide whether to call something a C major triad, [0,4,7], an instance of set-class (037), cseg <012>, and so forth?), and many of these decisions will have to be made on the basis of their realization in an actual passage, and, crucially, the goals and interests of the analyst/listener. In Example 6.3, I present a functional analysis of tone presence in mm. 12-15 of “demeurer.”



Example 6.3. Functional Analysis of pitch, mm. 12-15

In Example 6.3 I follow the practice introduced in Example 6.2 of distinguishing between more and less prominent interval connections by use of fill-in and X-note-heads. This serves as a rough approximation of the distinction between the two, because the degree of prominence is one

of degree, not kind. This should not be taken to mean there is no intervallic relation between more and less prominent notes. To the contrary, such relations play a fundamental role in helping to articulate the particular form that the prominent tone relationships take. The prominent tones for mm. 12-15 are also enclosed in curved rectangles. As can be seen, the intervallic relationships enclosed are all augmented octaves ({Bb, B}, {Ab, A}, {F,F♯}, {C, C♯}). But crucially, these tones are *texturally differentiated* augmented octaves that encompass more than a pair of two pitches.

The texture for this movement is quite simple throughout; it is stratified into two functions, a melodic line and a chordal accompaniment. This makes a big difference for the presence of pitch for two reasons. First, when dealing with the degree of intervallic prominence for a tone, the tone presence will be much more prominent *within* a particular textural function than between textural functions (though, clearly, there are exceptions contingent on the particular ways in which the texture is manifested in the phrase). Secondly, the relationships between functions often create figure/ground relations in which the tone presence of the "figure" textural function is made possible by the "ground" texture. This is the case in Example 6.3. Specifically, the formal designation of minor ninths is *made relevant* by the *consistent relationship* between the root of the added-sixth chord (and I here, I follow Benitez's reading of this chord) in the accompaniment, and the pitch that initiates the repetitive three-note descending figure in the melody (except in the final iteration, where the minor ninth, F-F♯, which occurs on the second sixteenth of the descending figure). In this consistent relationship, the major added-sixth chord in the accompaniment serves as the ground from which the melodic figure receives its intervallic quality: the minor ninth. The tone presence of this passage can therefore be seen as a *function* of

its texturally differentiated relationships both between and within the texture. This is so in two respects.

First, such textural differentiations establish distinctions in terms of intervallic prominence. The use of the melodic-accompaniment texture helps establish an interdependent figure-ground relationship in which the accompaniment serves as the ground from which the melodic figure receives its meaning as the most prominent element in the texture. As the most prominent element in this passage, the potentially limitless kinds of intervallic qualities associated with the tone-presence in this passage will be significantly limited *by the unfolding pitch organization of the melody*; that is the process of melodic phrase formation. In this example, I suggested that the excessive clarity of the threefold repetition of the descending figure in the melody marked the initial pitches within each three-note group as prominent. This is so because the initiation of durational processes tends to be marked unless other criteria override the prominence of the initiating figure. As such the intervallic relationship between the melody and the initiating pitches of the accompaniment is most prominent except for the last F♯ for reasons discussed above.

Second, once textural functions are differentiated (i.e., we determine which element is the figure and which is the ground), we further differentiate relationships *within* and *between* the different elements of the texture for prominent intervallic qualities. In the analysis above, I followed the Benitez reading in hearing the added sixth chord as the focally prominent element within the accompaniment, with the upper three notes acting as quasi harmonics. However, since the accompaniment normally serves as the ground for the even more focally prominent melodic figure, I further differentiated the prominence of elements within this major added sixth chord between the root, designated as focally prominent, and the other chord members, which are more

schematic.[16] The decision to take the root as focally prominent within the accompaniment is derived from the gradual process of clarification described above in the Benitez-style analysis and the relationship of this process to the unfolding of the melodic line. As I mentioned earlier, the initial B-flat added-sixth chord is not nearly as prominent within the CTI-A chords as the C added-sixth chord at the end of the passage. However, the prominence of the added-sixth chord slowly emerges in this passage, until it is quite clear in the C Major added sixth chord. In addition, because this chord is in root position, I define the larger ongoing process beginning with the opening CTI-A chord as an attempt at obtaining the quality of root. Yet this quality of root *within* the accompaniment still only serves as the ground to which the melodic tone is endowed with its tone presence. As we saw, the initial note of the thrice-repeating three-note descending figure was focally prominent in the melody, and when we look at the relationship *between* this focally prominent melodic pitch and the focally prominent interval quality in the accompaniment, we get the minor ninth, which itself becomes gradually clarified until we arrive at the clearest presentation of the added-sixth chord in the accompaniment.

At the beginning of this analysis, I said that the formal qualities of tone were irreducibly wrapped up in its larger function. With respect to Example 6.3 we can say these functions are both textural (i.e., the distinction between figure/ground relations) and processual. Another way of putting this is that the ***formal tone object*** cannot be identified as such without recognizing its function, which is in part a matter of how the object is ***elaborated*** and how it functions in the

[16] I must reiterate that by labeling one element as more focally prominent within a texture than the others I am NOT suggesting that we do not hear the intervallic qualities produced between the less prominent pitches. To the contrary, that B-flat in CTI-A (m. 12), to take but one example, could not receive the intervallic quality of root if it was not the root of something.

construction of a phrase. In order to express this relationship between form and function I adopt the following formal representation that bears resemblance to Lewin's well-known p-model[17] :

Textural-Space/Voice: ((Interval Quality, Relation)$_{obj.}$, (Interval Manipulation)$_{elab}$, (Phrase/Constituent)$_{func}$

In this layout, the textural space (or voice in the case of monophonic lines) refers to the potentially open-ended *function* (e.g., melodic, accompanimental, fugal response, etc.) that a note takes on in an ongoing musical situation (recall that tones and intervals are only ever seen as *aspects* of holistic situations). Above the staff in Example 6.3, I have focused on the melodic tone presence. The tone presence of this textural space consists of three interrelated aspects: the formal tone *object* (written as the subscript "obj"), an *elaboration* of this object (subscript "elab"), and the larger *function* of this object manipulation in the phrase or constituent. In Example 6.3, I separate out the components and only focus on the formal tone object and the elaboration of this object. In this passage, the interval quality was the minor ninth formed in relation to the focally prominent root of the minor sixth in the accompaniment. This formal tone object was chosen because of its melodic manipulation in the larger phrase formation; that is, the three-note descending figure was repeated three times in a descending cseg that suddenly rises up at the resting point of the phrase. Thus, the formal tone object (m9, root-M add6)$_{obj}$ is elaborated not by the more traditional notions of passing tone, neighbor, arpeggiation, or some kind of sequence—though in other circumstances it could be—rather this object is elaborated by the cseg <2103>. It is important to note that all three aspects of my formal model are completely open, and do not derive from a limited list of features and possible relationships. The choice of object, elaboration, and function is an embodied process that is highly context-dependent, and arises out

[17] Lewin (1986).

of the interests, goals, and understanding of the composer/listener/analyst, in interaction with the affordances of the music.

Not defined in this passage is the function. The reason is that I still need to introduce two concepts that are included in my definition of tone (see p. 5), phrase formation and construal, and there is a particular limitation of all three of my model analyses that I have not yet articulated, the issue of musical temporality. In the next section I review Hasty's temporally situated concept of phrase formation in order to account for this limitation. In addition, I more fully elaborate what I mean by formal tone object by engaging the work of Matthew Butterfield and Ronald Langacker on the musical object and construal, respectively. Engaging the work of Butterfield will allow me to describe in more detail how something as seemingly static as the metaphorical musical object can be treated temporally; making use of the phenomena of construal will allow me to clarify what I have meant when I described certain interval qualities as more prominent than others. Before doing so it is worth summarizing the phenomena of pitch presence that I have discussed so far with respect to my three analyses.

In my first two analyses I presented two different views on the pitch organization of mm. 12-15. The main difference between the two had to do with the conceptual frame brought to bear on the interpretation of interval quality. In the first, I gave a traditional set-theoretical analysis of this passage that described the transpositions used with an attempt at trying to rationalize why three different transpositional levels were used. This analysis was described as more schematic than the more "tonal" reading of the second, because the second differentiated between intervals within the larger sonority and used the conceptual frame of diatonic intervals rather than semitones in an equivalence space that made use of all five OPTIC transformations. Although these two readings made use of two different conceptual frames that was dependent on the aims

of interests of the two readings, I ultimately decided that they both projected similar views on how pitch becomes present to perception in a passage. In both cases the presence of pitch arises as a set of formal properties determined by some fixed and determinate system (or grammar) regardless of the roles these pitch relationships play in certain rhythmic, gestural, or phrase processes. In contrast to these analyses, I offered an analysis that described tone presence in terms of its larger textural, phrase, and elaborative processes to illustrate how tone objects are decided based upon how this object is being elaborated. This analysis also illustrated how a range of different conceptual frames (e.g., triads, diatonic intervals, csegs) can be combined in the discussion of tone presence. Having done so, I now turn to the issues of phrase formational and construal phenomena unaddressed in my initial definition of tone presence.

PHRASE FORMATION, CONSTRUAL, AND THE MUSICAL OBJECT

In "Phrase Formation in Post-Tonal Music," Hasty interprets the concept of phrase in light of the wide-ranging estimates in the psychological literature of the "perceptual present" (the time span in which temporal events are presently activated in memory). In particular he defines two distinct units that correspond to the upper and lower limits of estimates of the perceptual present: the constituent in echoic memory and the phrase in active memory. In essence, a constituent is a basic unit similar to Schoenberg's *grundgestalt*, Zbikowski's (2002) definition of a motive as a basic level category, and Hatten's prototypical gesture (2004), that is equivalent to the contents of echoic memory whose upper limits are 2-5 seconds. As Hasty, following the cognitive psychologist Ulrich Neisser, summarizes the concept, "Echoic memory is…a 'preliminary and transient storage mechanism for sensory information.' The contents of echoic memory coexist in a relatively uninterpreted form. The persistence of such a unit in an

unsegmented, uninterpreted state allows it at a later stage to be reinterpreted in the context of subsequent units."[18] These constituents of echoic memory are then integrated and occasionally reinterpreted in active memory, "which is regarded as a synthetic act, thus implying the 'presence' of all components."[19] As the constituents are integrated in active memory (which again resides in the realm of the present), they begin to attain a greater degree of fixity (or what Hasty 1997 later calls durational determinacy) since certain relationships among constituents become much more prominent in the larger phrase formation than others. In other words, as the relatively "uninterpreted" constituents become *interpreted* through the lens of further ongoing constituents, the more the potential for further interpretation of these constituents is constrained. Following Matthew Butterfield we can say that such *past* constituents approach the status of musical objects.[20] I will return to the relation between durational determinacy and the status of musical objects shortly. Before I do so, however, there are a few more features that are relevant to the conception of tone developed in this chapter.

A visual representation of the relationship between multiple constituents and the larger phrase formation is given in Figure 6.1. In this figure I have designated the entire process in which a phrase formation occurs—what I am calling the ongoing situation—by means of a dashed arrow. In using a dashed arrow (and box for the constituent), following the practice of Hasty in his theory projective of meter, I intend to symbolize the fact that the larger process is in the *present* and is therefore ongoing and partially indeterminate.[21] Within this ongoing process lie two constituents: An immediately relevant *past* constituent (represented by a solid box) is

[18] Hasty (1984, 172-173).
[19] Ibid., 173.
[20] Butterfield (2002).
[21] See Hasty (1997, ch. 9).

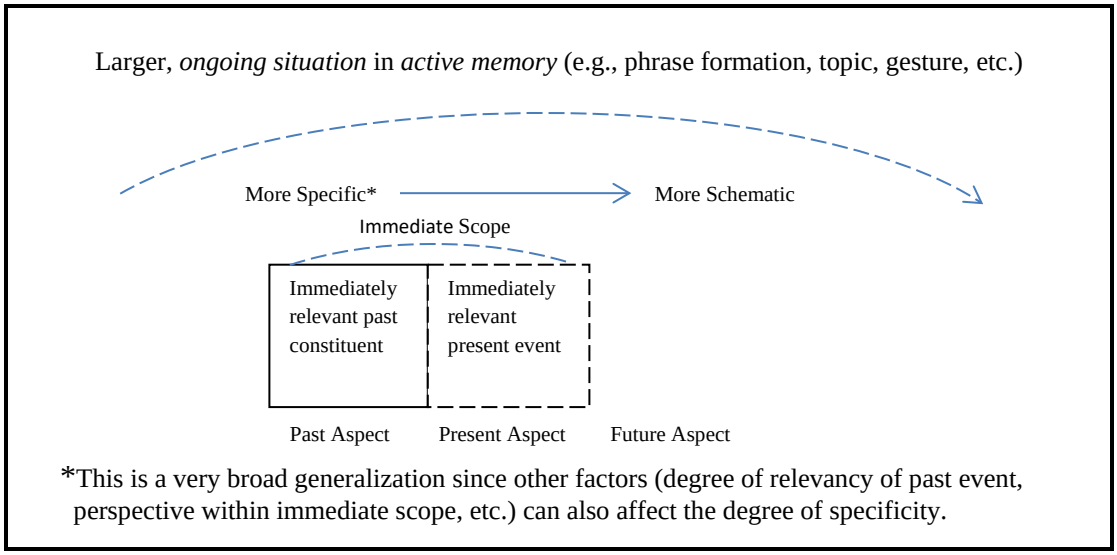


Figure 6.1. Model of Prominence in Ongoing Phrase Formation

made relevant by an indeterminate present constituent, which is still in the process of becoming a unit of echoic memory. Not only is the past constituent made relevant by the present constituent, its very status as a past constituent is only made possible by virtue of its relevancy for another present constituent. I have thus connected these two constituents with a dashed arch to show that they are mutually interdependent.[22]

While both past and present constituents are mutually interdependent, it is the past constituent (and past events more generally) that I am most interested in because it is as a relevant past event that such constituents approach the status of musical objects. More specifically, the types of musical objects I am interested in are what Matthew Butterfield

[22] This relation between a past constituent and a present one owes a debt to Hasty's (2010) definition of past, present and future as three *aspects* of a unified overarching process.

describes as “microscopic musical objects.” As he defines it, “Microscopic musical objects are generally discretely profiled sounds of a determinate duration that may or may not suggest the formation of larger musical wholes.”[23] The metaphorical extension of the very broad category *object* to music (extremely common in theoretical discourse) is appropriate for Butterfield because, although musical units do not exhibit *all* of the properties of prototypical objects (e.g., a

1) An object is an other, not I;
2) it is structured in our perception by container and part-whole image schemata;
3) it is some type of thing, i.e. it can be categorised at the basic level with respect to perceived shape and function;
4) it is durable, material and present as perceived through vision and/or touch;
5) its shape and size tend towards gestalt in our perception – i.e. optimally the whole can either be held in the hands or fit entirely within the field of vision (or at least enough parts can be seen that one can imaginatively extrapolate the size and shape of the whole); and
6) it is inanimate.

Figure 6.2. Object ICM (Idealized Cognitive Model) from Butterfield (2002)

cup, piece of trash, etc.), it still exhibits some of them. An Idealized Cognitive Model for the category object is shown in Figure 6.2.[24] This ICM has six properties and the degree to which a representative of this category contains all of these properties, the more prototypical will be that instance of the category. A cup has all six properties while a musical object always contains properties one and three, may or may not contain properties two and five depending on a sound’s durational determinacy, and only partially meets, or is ambivalent towards, properties four and six.

[23] Butterfield (2002, 349).
[24] This figure is reproduced from Butterfield (2002, 337).

Before moving on to the construal phenomena let me recap the relationship between musical objects and past constituents and briefly tie them in to my definition of tone. First, past constituents are relatively uninterpreted units of echoic memory (with an upper limit of 2-5 seconds) that are made relevant by their participation in the constitution of indeterminate present constituents. These constituents approach the status of more or less prototypical musical objects depending on their durational determinacy (i.e., the extent to which we can integrate such units into discretely bounded shapes). As an example, Bartók's String Quartets feature more highly durationally determinate objects with much more frequency than, for example, many moments in the first piece of Boulez's *Le marteau sans maître*.[25] This concept of a constituent as a more or less durationally determinate object has a deep bearing on the *quality* of tone perceived. For instance, depending on how determinate the duration of a past constituent is, a listener may choose to focus on very different intervallic connections among a constituent. For example, if a piece features a very fast and continuous distribution of a continuously changing aggregate, we may choose to *focus* on the contour of the tone object; or maybe the presence of pitch is structured in such a way so as to become less present in a piece *in order to* help direct a listener's attention on the changing registration (register is still an intervallic quality because it still constitutes a categorical change [e.g., from high to low]). There are still many other possibilities depending on the nature of the past musical constituent (which, as you will recall, is dependent on the present ongoing event) and the listener's involved understanding of the past this past constituent. This being the case, I now turn to a discussion of two construal phenomena, adapted from the work of Ronald Langacker, in order to discuss some important aspects of what the

[25] For a discussion of Boulez's work in light of his discussion of durational indeterminacy see Hasty (1997, 282-295).

listener brings and what the composer might afford to the listener (the composer is, of course a listener) in the experience of tone presence.

In his account of vision and its analogue in language, Langacker offers a critique of neutral level analysis of language that resembles arguments made in Chapter 2. As he writes:

> With the possible exception of God, there is no such thing as a neutral, disembodied, omniscient, or uninvolved observer. An observer's experience is enabled, shaped, and ineluctably constrained by its biological endowment and developmental history (the products—phylogenetic and ontogenetic—of interaction with a structured environment). It is likewise determined by the observer's position with respect to the entity observed. However distinct or distant they may be, the very fact of observation establishes a link between them that inherently alters the global circumstances of the observed and brings the observer into the scope of observation (if only at the extreme periphery).[26]

He goes on to offer a schematic outline of some of the important constructs involved in vision (a) and conceptualization in language (b). Both of these constructs are reproduced in Figure 6.3. In this figure a viewer (V), directs their vision at an object. Such an object is always found within a

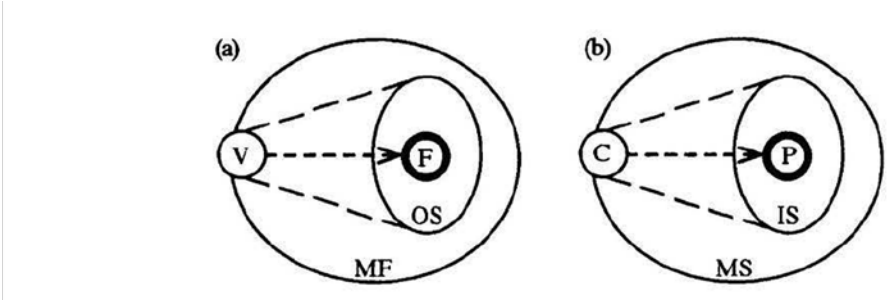


Figure 6.3. Schematic Outline of Constructs involved in vision and their Linguistic analogues reproduced from Figure 7.1 in Langacker (1999). V stands for viewer, C for conceptualizer; MF stands for the maximal field of view, MS for the maximal scope; OS stands for the onstage

[26] Langacker (1999, 203-204).

region (i.e., the "locus of viewing attention"), IS for the immediate scope of conceptualization; and F stands for the focus (or object) of perception, P for the profile of conceptualization.

maximum field of vision (MF) which encompasses various objects, colors, figures, shapes, etc. which exhibit more or less degrees of clarity depending on the scope of one's attention and on how near or far the objects on the periphery are from what Langacker calls the onstage region (OS) of vision. The onstage region is "the locus of viewing attention and constitutes the area in which acuity renders focused observation possible."[27] Finally, within this onstage region lies the focus (F) of viewing attention which is often described as the *object of perception*. It is important to note here that the onstage region has a much greater bearing on our experience of objects of perception than the maximal field of vision since it is much closer in range to the object of perception and therefore serves as a clearer "ground" for the focus of perception than the maximal field of vision. Yet, as I mentioned earlier, depending on the scope of one's gaze, the maximal field of vision can play a more or less important role in our experience of the focus of perception.

As the equivalent schematic outline in (b) suggests, the viewer is equivalent to the conceptualizer (C), the maximum field of vision to the maximal scope (MS), the onstage region to the immediate scope (IS), and the focus of attention to the profiled (P) region within the immediate scope. Instead of showing how the schematic outline of conceptualization ([b] in Figure 6.3) works in language I want to move directly into the visual analogue with respect to the conceptualization of tone. I do so by comparing Figure 6.3 to Figure 6.1.

[27] Langacker (1999, 205).

Recall that in Figure 1 the larger dashed arrow refers to the ongoing situation in active memory (maximum length estimated at 35 seconds).[28] This ongoing situation is equivalent to the maximal scope of conceptualization because, while it plays an important role in the conceptualization of the microscopic musical object, it still remains on the periphery in comparison to the musical analogue of the immediate scope of conceptualization, which I define as the mutually interdependent *pairing* of the relevant past constituent with the present ongoing constituent of echoic memory. The equivalent to the focus of perception is the relevant past constituent, which I defined earlier using the terminology of Butterfield as a microscopic musical object. As I mentioned, such musical events only approach object status by virtue of their being made past with the onset of a new event which in turn takes the past event as relevant for present becoming.

Thus, tone-presence arises when we take an object (past constituent), defined functionally by its relevancy for present becoming, by a listener who chooses to focus attention within the immediate scope of the past-present constituent pairing in relation to the larger ongoing situation. As was the case with vision, such a listener may decide to expand the scope of their auditory gaze and thereby focus attention on the tone-presence of combined past constituents in their relevancy for a larger phrase formation. In such cases, the quality of tone-presence is altered, a quality which can be described in part by what Langacker describes as the construal phenomena of specificity/schematicity.[29] A good way to think about this construal phenomenon is, again, through the metaphor of vision. For example, the details of a clock as seen from forty feet away

[28] By ascribing the notion of a situation to musical phrases, topics, and large-scale gestures, I mean to evoke the definition of situation by the cognitive psychologists Wenchi Yeh and Lawrence Barsalou (2006, 352-353): "A region of perceived space that surrounds a focal entity over some temporal duration, perceived from the subjective perspective of an agent. The region of space may include a variety of entities and events, and the agent's subjective perspective may include a variety of mental states."

[29] For a discussion of construal phenomena in language see Langacker (2008, 55-57).

will be much less specific (or more schematic) than one's view of the clock from five feet away. And yet, the clock still shows up (that is, becomes present) in our vision in both cases. I want to argue that the same kinds of phenomena show up in music.

An approximation of the construal phenomena of specificity in music is shown in Figure 6.4. It should be kept in mind that this figure represents both an *idealization* and *abstraction* of the ways that the degrees of specificity are manifest in experience. It is an idealization because different sets of background knowledge and overall abilities will lead to different degrees of schematicity and specificity for each listener. Just as you see something *as* a clock only if you have a concept of a clock, so too will you only hear a musical object *as* somewhat "whole-tonish" if you have some sort of background knowledge (i.e., totality of involvements and responsive understanding) of the whole tone scale *as a prototype*. For each individual listener then, certain varieties of tone presence such as "pitch intervals" may not register, while still others not included in Figure 6.4 will have to be added. Moreover, this figure is an abstraction insofar as it suggests that the construal phenomena of specificity can be adequately described *independently* of the totality of involvements and responsive understanding that function as the condition of intelligibility of musical intervals. Still the idealization does help give some sense of how the construal phenomena of specificity operates as one, among several, dimensions of tone presence.

In this figure, I suggest that the perception of tone *as* ordered pitch intervals exhibit a greater specificity of presence than, for example, equivalent pitch class sets. Hearing a tone-object (e.g. a microscopic musical object) as equivalent pitch-class sets in turn has a greater specificity of presence than, for example, hearing the same tone-object as a prototypical instance of a maximally compact set class. Another way of putting this is that the degree of specificity we

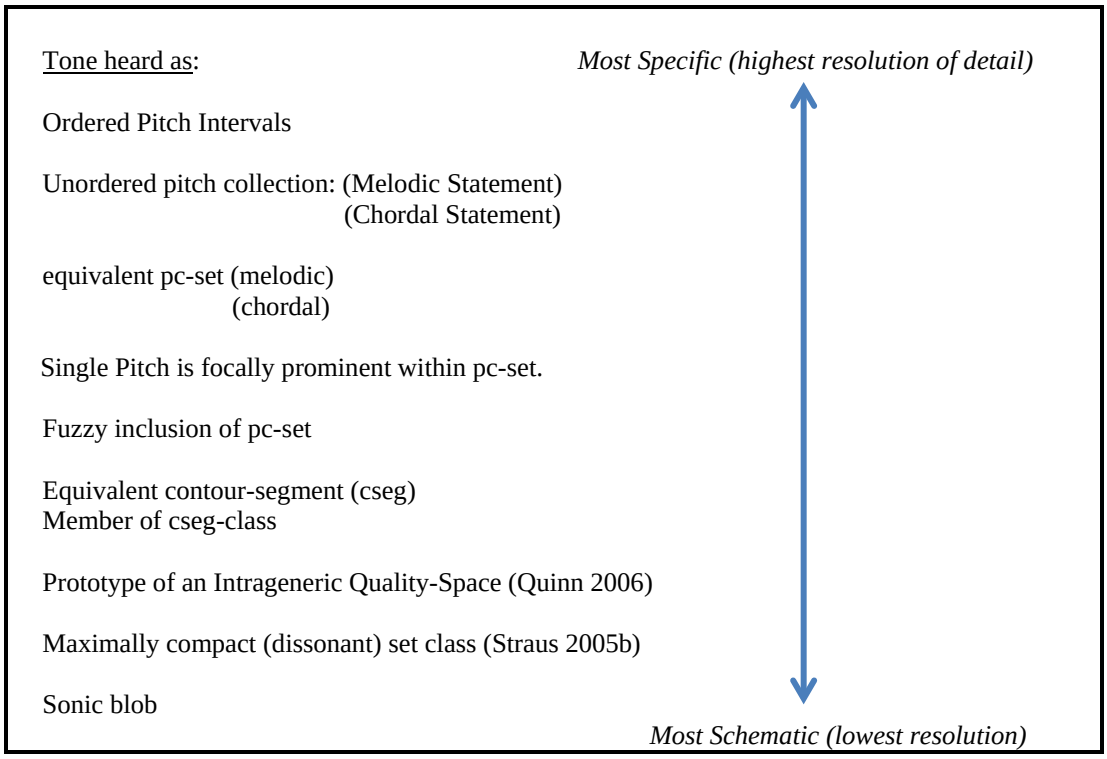


Figure 6.4. Specificity of tone presence from most specific to most schematic

experience in the melodic tone-object C5-B4-G♯4-A♯4-A4-C♯5 will depend in part on the *function* of such an object in the ongoing present constituent as well as the larger phrase formation. For instance, we might hear this object as ip<-1,-3,+2, -1, +4> if we integrate these six pitches as a past constituent relevant for a similar series of present constituents at the very beginning of a phrase formation that is motivically concentrated. Alternatively, we might say this figure had gradually accumulated two smaller constituents heard as equivalent pc sets, and is now relevant for a present constituent which suggests the likely occurrence of another member of set-class (014). As a final alternative, we can imagine that this tone-object occurs as a dramatic fortissimo sixteenth-note triplet that leads directly into a series of mild-mannered, *mf* arpeggios

in F-major. In such a scenario, one could easily imagine someone regarding the opening figure as an erratic chromatic cluster (in other words the prototypical instance of a maximally compact pc set) that isn't easily absorbed into the rest of the phrase.

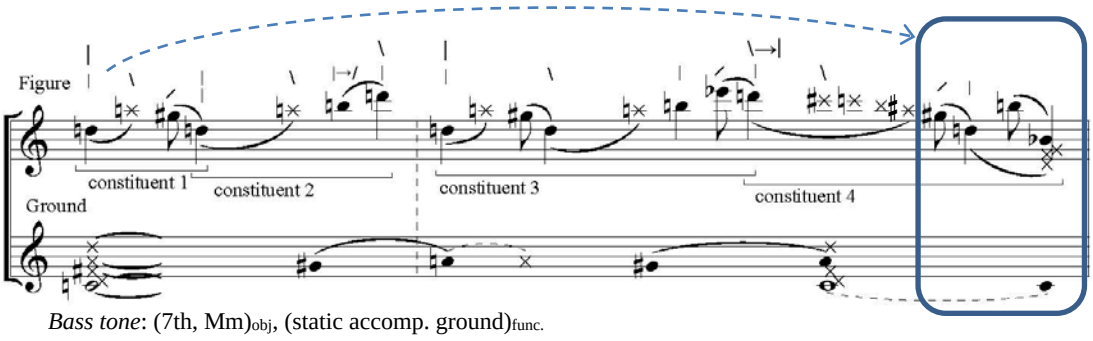
The points of these examples are that, one, the level of specificity we attribute to a tone object depends on the constituents and phrase formations they play a role in, and, two, that it makes a big difference in our understanding of the quality of such an object. That is, the qualities attributed to tone depend crucially on the larger situation in which the tone objects occur. In this sense, I concur with the philosopher Alva Noë when he writes with respect to visual perception, "The world does not show up as presented on a viewing screen; it shows up as the situation in which we find ourselves."[30] In the following section I will explore some moments and possible experiences of tone-objects in the opening period of "demeurer" in order to make all of the concepts clearer. Before I do so I should make one qualification to my discussion of specificity, which goes back to the issue of what a listener brings to the table. While I have been focusing on the effects of what happens when the scope of the constituent is expanded or contracted, the effects of such expansions and contractions are equally a product of the individual conceptualizing subject's *understanding*. This is because perception, as Alva Noë suggests, is a transaction, or as he puts it: "Perceptual presence—being there for us to perceive—is not merely a matter of existence or proximity. It is a matter of availability. And what fixes the scope of what is available, beyond mere existence or proximity, is understanding….To see an object, it must be there for us, and to be there for us, we must, in some sense, know it."[31] As an example, suppose that before listening to the dramatic sixteenth-note triplet figure in the previous thought experiment, our impersonal listener had just listened to Webern's Concerto, op. 24, 40,000 times

[30] Noë (2012, 3).
[31] Noë 2012, 30.

and is an avid enthusiast of all things (014); then it's quite possible that this listener would hear the fast outburst as two instances of (014).

ANALYSIS OF PERIOD 1, PHRASE 1, MEASURES 1-11

Example 6.4 shows a plan for the larger ongoing situation of the first phrase (mm. 1-11). I describe it as a plan because when such a phrase is shown visually all at once it can only represent the larger plan of action, and not the presence of tone as it is ongoing. In any case, the plan in figure 1 shows the four major constituents of this phrase as they appear at the time of their synthesis at the conclusion of the phrase in m. 11.[32] Example 6.4 also makes use of the metrical symbols of Hasty's *Meter as Rhythm*.[33] The plan of my analysis is to interpret the tone-presence of one or two constituents at a time along the lines of David Lewin's p-model analysis of Schubert's song *Morgengruss* in "Music Theory, Phenomenology, and Modes of



Example 6.4. Plan for Ongoing Situation, Phrase 1, mm. 1-11

[32] Hasty 1984 refers to this moment as the single point at which the entire phrase is present all at once in active memory.

[33] | is a metrical beginning, \ a continuation, / anacrusis, and → reinterpretation. All of these symbols represent *functional* designations in the projection of relevant durational quantities. They are important in this study, because they play a role in the elaboration and function of the tone-object.

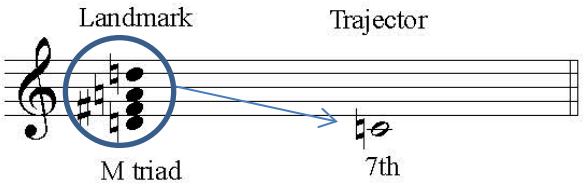
Perception."[34] More specifically, I adopt his approach to the analysis of events by showing the scope of the analyzed event chosen (the past-present constituent pairing) and describe its relation to the ongoing phrase formation within the immediate scope of that example. Just as in Lewin's analyses, the accumulation in the size of some of my analysis should NOT be regarded as the gradual accumulation into a final end-state perception because there is no such perception. This analysis represents an interactive exploration into the structure of particular musical *events* chosen by the analysis.[35] Other events with different situational frames are possible.

In order to set up my analysis I begin with a discussion of some crucial features of the overall movement in order to prepare for a discussion of the individual constituents. The fifth movement, written for strings, consists entirely of a single melodic line accompanied by Messiaen's color-chords (principally the chords of transposed inversions on the same bass note [CTI]), and harmonies derived from mode 3 in the third period (mm. 38-62). In order to make the bipartite division of the textural space more distinct than it might otherwise be, given its homogeneous instrumentation, Messiaen gives the melodic line to sixteen muted first violins, and the harmonic accompaniment to six second violins, six violas, and six celli without mutes. Thus, you have nearly the same number of string instruments on the melodic component of the textural space as you do in the accompaniment. This makes a big difference in terms of how these two components of the texture interact; namely, melodic and accompanimental components of the texture become much more distinct than they might have otherwise been had Messiaen scored this section for the full string section with or without mutes. This orchestration and

[34] See Lewin 1986, 343-357. For Lewin's extended analysis of this song, see Lewin (2015).
[35] Here I am following Marion Guck's understanding of analysis as a form of interpretation of the interaction between analyst and musical object. See Guck 2006.

distinct bifurcation in textural function despite the homogeneous timbres of the strings, has important ramifications for quality of tone-presence, which I turn to presently.

In Example 6.4 I have presented some notes with normal filled-in note-heads, while others are presented with X's following the practice of Examples 6.1-6.3. This is a rough approximation of the specificity (or vivacity) of tone-presence for intervals and tone-qualities slurred together. In addition, I suggest that certain pitches in the textural space function as the *ground* for more focally prominent pitches, both in terms of chords and the process of melodic phrase formation and the production of constituents within and between textural elements. Within harmonic sonorities, I suggest that certain intervallic qualities of tone serve as the means of endowing particular pitches with a more prominent tone quality. In the case of melodic phrase formations, the less focally prominent pitches usually function to *elaborate* other pitches in the production of tone. Examples 6.5 and 6.6 illustrate both of these phenomena, respectively.



Example 6.5. Landmark-Trajector Relationship in Opening Chord

In Example 6.5 I adopt the concept of a landmark-trajector relationship from the work of Langacker, whom I mentioned earlier in conjunction with the construal phenomena. The landmark-trajector relationship refers to a grammatical construction in which the conceptual object profiled is a *relationship* between two entities, one of which (the trajectory) is more

focally prominent than the other (the landmark). Two examples he uses to illustrate the landmark-trajector relationship are the prepositions *above* and *below*, which both profile the same relationship.[36] However, if we think of the relationship as X *above* Y and X *below* Y, then X is the trajector (primary participant) and Y the landmark for *above*, while the opposite is true for *below* (X is the landmark, Y the trajectory). By placing the labels landmark and trajector over the D major chord, and C, respectively, I am suggesting that the opening chord of the piece, is better interpreted as a profiled relationship between two elements and not as some kind of dominant 4/2 sonority.

In Example 6.4 the formal label *Bass tone*: ([7^{th}, Mm]$_{obj}$, [static accomp. ground]$_{rel.}$) is used to express the quality of tone-presence discussed in Example 6.5.[37] Recall that the first item in parenthesis with the subscript "obj" (for object) represents the primary microscopic musical object being profiled as a constituent. The two items within the parentheses symbolize the fact that the relationship being profiled is one in which the first member is the trajector (the seventh) in relation to the landmark (a Major-minor seventh chord). Notice that the landmark is not a V 4/2 chord, and the trajector is not scale-degree 4. In other words, the quality of tone in this passage (at least in my interpretation) does not encompass any scale-step based theory of tonality. The reason has to do with the second bracketed item in the bass which shows the function of this tone. In this passage, the bass remains stable for the entire first phrase (and period), which lasts 1:43 in the performance by Sylvain Cambreling and the South West German

[36] Langacker (2008, 71). In his terms, both prepositions have the same conceptual base within the immediate scope of conceptualization (i.e., both profiled the relative vertical spatial location of two things). Also, I place the words *above* and *below* in italics because this a common practice in linguistics to show that the semantic content of these words is under discussion, as opposed to their phonological content (in which case you would use commas [i.e., "above" and "below"]).

[37] I'm not completely comfortable with this formal way of expressing tone-presence for some of the very reasons expressed in Brian Kane's (2011) article on why he suggests Lewin abandons the p-model in the later part of his phenomenology article.

Radio Symphony Orchestra (well beyond the estimated upper limits of active memory!). Furthermore, the bass tone receives much greater weight in Messiaen's instrumentation than any of the pitches which serve as the Mm landmark in this passage. That is, there are four solo strings playing the bass tone in the opening phrase while there are only two instruments on the other notes of the chord.[38] Furthermore, the immobile quality of the tone-presence of bass, which is detached from any directionally situated tonal quality helps embody that temporal sense of the eternal and simultaneous which serves as the conceptual foundation of Messiaen's engagement with the theological notion of love in this movement.

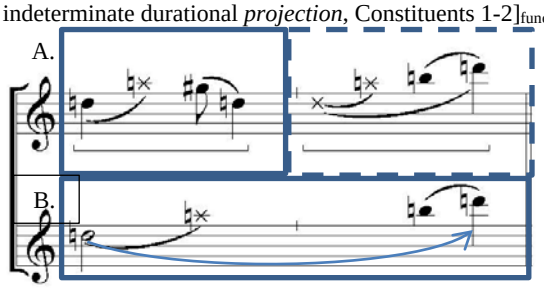
Also included in Example 6.4 are slurs connecting notes. These slurs track the metrical processes of events. More specifically, these slurs track the continuation and anacrusis of events that are begun with more specific tones. Slurs written under note groups refer to the continuation of durational processes while those above note groups refer to the directedness of such a group toward the next metrical beginning. The relation between these slurs and metrical processes is also connected to the decision to make a constituent relevant for the larger becoming of a phrase for one important reason: constituents never occur between beginnings and continuations or beginnings and anacrusis. This is because metrical processes track the becoming of a durational process (to use Hasty's language throughout *Meter as Rhythm*) and a constituent, as defined above, is nothing but the becoming of durational quantity in echoic memory. Constituents are chosen for similar reasons as tone objects; namely, they become relevant as objects of manipulation as the larger phrase is ongoing. As such, constituents are chosen based upon their function in the larger phrase formation in situation similar to that of tone presence and just as the choice of tone-presence is highly context-dependent and based in the interests, goals, and

[38] Messiaen, himself describes the C4 in the opening period as serving as the bass for a harmonic litany in the program notes.

understanding of the composer/analyst/listener in relation to the affordances of the larger phrase formation, so too is the constituent determined by all of these factors. There is no transcendental, disembodied, piece-independent set of rules that determines what is and is not a constituent in all instances without taking into account all of the factors just mentioned.

In Example 6.6 A. and B., I show the tone-presence of the opening two constituents. As I mentioned earlier, the solid rectangular enclosure around constituent 1 represents a past constituent (and therefore a microscopic musical object) while the dashed enclosure represents the fact that this event is ongoing, and therefore indeterminate. As I mentioned earlier, it is the

Melodic Tone A: ([Root, Mm]$_{obj}$, [tritone-closure]$_{elab}$, [near-indeterminate durational *projection*, Constituents 1-2]$_{func}$)



Melodic Tone B: ([root, Mm]$_{obj}$, [La-do, 8va-continuation]$_{elab}$, [Constituents 1-2 synthesis]$_{func}$)

Example 6.6. Constituent 1 and 2, Phrase 1, mm. 1-4. A. Immediate Scope for Past Constituent in Relation to the Present. B. Immediate Scope enlarged to encompass both constituents in A

past constituent that is endowed with tone-presence, but only in its functional relationship with an ongoing present constituent. With that in mind, let me briefly run through some of the primary characteristics of these Constituents, before moving on to the most marked moment in the first period.

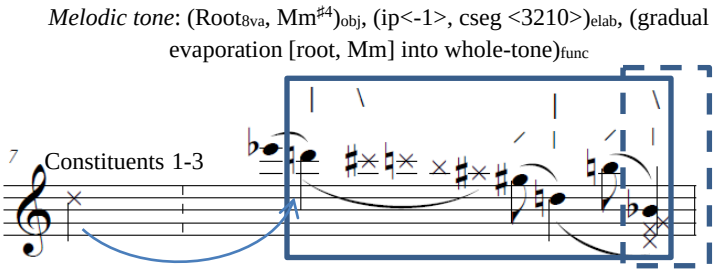
Example 6.6A shows the tone-presence of the first constituent, while 6.6B shows the enlarged constituent of 1 and 2, at the moment of their synthesis (i.e., when mm. 1-4 are made past and relevant for constituent 3). The first constituent is chosen on the basis of Messiaen's common use of the tritone to bring closure to a unit (it also returns after the second constituent). The second constituent is chosen because both A and B continue the duration and contour begun with the second D5, and the return of the first constituent with the third closes off this second duration. Above Example 6.6A, I show that D5 in m. 1 is heard as a root of an Mm seventh (without tonal function in the sense of scale-step theory), which functions as the beginning of a projection of a near-indeterminate durational quantity.[39] The nearly indeterminate projection—a direct result of Messiaen's tempo at sixteenth-note = 46—actually reinforces the absence of any presence of tonal-function with respect to a governing scale. In addition, the tone-object (root, Mm)$_{obj}$ is elaborated by means of Messiaen's common descending tritone that brings closure to the first constituent.[40] As such, this moment is marked in the phrase in comparison to the perfect fifth above which only serves to continue the root's duration. It is for this reason that A5 is marked as more schematic in comparison to G♯5 or D5. Furthermore, the distinct rhythmic connections between the A (which attaches as continuation to prior D) and G♯ (which attaches as anacrusis to D), make the semitone connection between A-G♯ less vivid. It is for this reason that I do not define the melodic tone presence for the first constituent as an instance of set-class (016).[41]

[39] For Hasty (1997), something which lacks durational determinacy lacks the potential for projection.
[40] As I noted in footnote 20, the moment of closure is the moment when the object is made past, and the whole constituent or phrase is present all at once in echoic (for constituents) or active memories (for phrases).
[41] While one could hear the vivacity of IC 1 between the G♯ of the melody and the A of the accompaniment, I hear the melody and accompaniment as semi-autochthonous zones which are not interacting at this moment of the piece for the reasons I discussed in relation to Messiaen's instrumentation of this piece.

In the enlarged tone-object of Example 6.6B, the root is still the primary object of focus, but at this larger level I reinterpret the elaboration of this object as a directed motion (hence the arrow) to a *continuation* (see the metrical continuation sign in Example 6.6) of the object's duration an octave higher. This continuation is achieved by means of a directed motion by the solfeggio tones la-do. As was the case with the designation $(\text{root, Mm})_{\text{obj}}$ for the initial tone-object, the use of la-do does not implicate any larger tonal foundations. Instead it functions as a stock melodic motion used to help bring closure, and therefore synthesis, to the first two constituents.

Following the synthesis of the first two consituents, we get a repetition that continues to enlarge the duration of the tone-object well beyond what are typically regarded as the limits of both echoic (2-5 seconds) and active memory (ca. 35). In Sylvain Cambreling's recording of this movement with the Southwest German Radio Symphony—a recording that more closely approximates the tempo markings that Messiaen gave to this piece than any other recording—the opening constituent lasts 15 seconds, while the first three constituents combined last about 1:15. Yet, I argue that we continue to feel the emergence of the individual constituents, their tone-presence and the growth of these constituents into larger phrase formations. The constituents do not become indeterminate in duration (and therefore less vivid in their tone-presence) as they continue to accumulate into a larger phrase formation. On the other hand, it is this excessive enlargement (an *éblouissement*) in our feeling for duration that transforms the quality of the tone-presence of the primary microscopic object ($(\text{root, Mm})_{\text{obj}}$) that is something beyond scale-degree 1. The quality of the primary object becomes much more acute with the arrival of the fourth constituent after a highly marked semitone anacrusis into the second 8va-continuation in m. 8.

In Example 6.7 we arrive at the first metrical continuation of a tone besides D5 (D6 serves as a beginning here) in this phrase.[42] Furthermore, this continuation is marked by the onset of a chromatic descent that gradually dissipates the presence of the primary tone object ([root, Mm]$_{obj}$) in constituents 1-3. This is shown in the elaboration component of the melodic tone presence. Just as in the first constituent, I do not mark the pitches in the continuation, C♯6-C6-B5-A♯5 as an instance of set-class (0123). While one certainly could hear it as such, there are



Example 6.7. Constituent 4, Phrase 1, mm. 8-11

three reasons I do not interpret this group of pitches as a pc-set. First, there is no other segmented instance of this pc-set in the larger phrase-formation that would prepare us to experience the tone of these four pitches as an instance of (0123). Second, this collection of pitches functions to *elaborate* the object [root$_{8va}$, Mm] as a continuation of D6's duration and is therefore subordinate and more schematic with respect to this primary tone-object. Finally, the uniform contour of these pitches moves smoothly into the highly characteristic (and therefore, more vivid) tritone closure into m. 10. This makes it hard to hear C♯6-C6-B5-A♯5 cohering into a discrete musical

[42] In fact, at a higher metrical level as shown in Example 6.4, I have shown a metrical reinterpretation from continuation to beginning. The difference in metrical assignments in Example 4 and 7 illustrates once more that all of the examples represent just some of the many possible models of event analysis along the lines of Lewin 1986. For example, an equally valid event analysis might combine constituents 2 and 3 in the analysis of the tone-presence and such an event perception would surely give different results from my Example 6.6.

object. As such, I interpret these four pitches as an elaboration at a more schematic level than the primary tone-object or the tritone closure.

I end my analysis with a close look at the function of the tone presence in the fourth constituent because this constituent closes the entire first phrase and thus brings the phrase as a whole into active memory at that moment. As a brief recap of what has happened in the phrase up to this point, we saw the tone-object of the first constituent grow to encompass the second by means of an elaborated ascent into the root an octave above (see Example 6.7). This root functioned as a continuation of the lower root's duration. This two-constituent musical object was made past by the repetition of this larger constituent in constituent 3. Meanwhile, during all of this, the *bass tone* remains constant in the background of the texture. After the arrival of the tone-object ($root_{8va}$, $Mm^{\sharp 4}$) at the end of constituent 3, which is simultaneously the onset of constituent 4, the presence of the primary object begins to dissipate with the onset of the chromatically elaborated continuation of the primary object in constituents 1-3 combined.

The moment of dissipation is very impactful as it arrives after the temporal extent of the opening three constituents' tone object continuously grows seemingly well beyond the limits of active memory, thus creating the sense of "dazzlement" with its utter immensity.[43] This dissipation appears to conclude with the arrival tritone into m. 10. However, in a move resembling Janet Schmalfeldt's "one-more time" motive (that is, an altered repetition of a closing gesture that evades closure), a striking minor ninth completely evaporates the presence of the opening tone-object of constituents 1-3, right at the moment when the entire phrase arrives in

[43] Also, recall the discussion of Butterfield's suggestion that a sound event only approaches object status to the extent to which it has durational determinacy and thus fulfills ICM property 5 in Figure 5 ("its shape and size tend towards gestalt in our perception – i.e. optimally the whole can either be held in the hands or fit entirely within the field of vision (or at least enough parts can be seen that one can imaginatively extrapolate the size and shape of the whole)."

active memory.[44] At this moment the two components of the texture collapse into one another on a quite visceral and marked whole-tone collection. Thus, the function of the tone presence in constituent 4 is to evaporate the enormous *melodic tone*: ([root, Mm]$_{obj,}$ [near- indeterminate durational *projection*, Constituents 1-3]$_{func}$ into the collapsed whole-tone textural space right at the moment of consummation of the entire phrase in active memory; a stunning example of *éblouissement*.

CONCLUSION

Toward the beginning of his seminal text *Phenomenology of Perception*, Merleau-Ponty offers his famous remarks on color perception: "This red patch which I see on the carpet is red only in virtue of a shadow which lies across it, its quality is apparent only in relation to the play of light upon it, and hence as an element in a spatial configuration. Moreover, the colour can be said to be there only if it occupies an area of a certain size, too small an area not being describable in these terms. Finally, this red would literally not be the same if it were not the 'woolly red' of a carpet."[45] In this chapter, I have argued that just as the red would not be the same red if it were not the "woolly red" of the carpet, so too the presence of pitch would not be the same were it not for its temporally constituted participation in constituents and phrase formations. In so doing, I developed an account of the intervallic qualities that endow individual pitch particles with tone-presence is much more numerous and qualitatively variable than is traditionally assumed by the word tone. For instance, rather than labeling the opening sonority either as a V^4_2 chord (or D^7/C), or, in a more atonal reading, (0258), I described the tone of this

[44] Schmalfeldt 2011.
[45] Merleau-Ponty 2002, 5.

sonority as a focally prominent landmark-trajector relation in which the upper four voices endowed the bass with the tonally autonomous status of $(7^{th}, Mm)_{obj}$ which, in turn, functions as a moment of harmonic stasis in the context of the unfolding melody. While it is hard to deny that this label is more cumbersome than the other two (and in many cases the above two labels work just fine), I argue that it is much truer to the *phenomenological facts* of the passage: that opening sonority is nothing apart from its manifestation as the utterly immense phrase formation and textural space it participates in, and the modes of construal brought to bear in my experience of the passage.

AFTERWORD

For every difference in the totality of involvements with musical situation, there occurs a unique way that musical tones and intervals show up for experience. This has been the chief idea behind this dissertation. In the process of analyzing Messiaen, I have also shown how these involvements are also manifest in the way that tone participates in ongoing phrase formations and gives rise to a variety of construal phenomena. Additionally, such involvements are always responsively understood in terms of alien utterances about the "same" object. Thus seen, musical tones show up for experience in twentieth-century as situational characteristics whose qualitative nature exudes an expressive character that blurs traditional lines between signifier and signified (as exemplified in my case study of the estrangement topic. Although such an approach appears to make the task of studying pitch organization in twentieth-century more difficult, I would argue that it supplements important formal work in post-tonal theory with an appreciation of the expressive richness and diversity of the varieties of tone presence in twentieth-century music.

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